SAMSUNG

Cordless Telephone

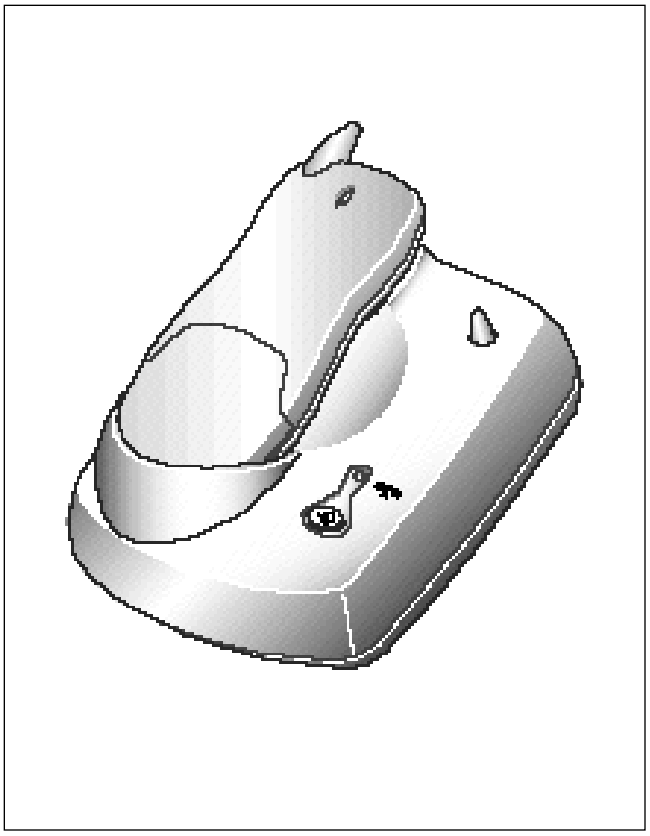
SP-R5100

SECRET

SERVICE

Manual

Cordless Telephone



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BASIC.

1. Safety Precautions

When using your telephone, these basic safety precautions should always be followed to reduce the risks of fire, electric shock and injury.

1. Never push objects of any kinds into your telephone through case or cabinet openings.
   They may touch dangerous voltage points resulting in the risks of fire or shock.

2. To reduce the risk of electric shock, do not disassemble your telephone.
   Take it to a qualified service technician when repair is required.
   Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly could cause electric shock when the unit is subsequently used.

3. Unplug this unit from the telephone jack and wall outlet, and refer servicing to qualified service personnel under the following conditions :

   - When the power supply cord, plug or adaptor is damaged or frayed.
   - If liquid has been spilled into the product.
   - If the product has been exposed to rain or water.
   - If the product does not operate properly after instructions have been followed.
   - If the product has been dropped or the cabinet appears damaged.
   - If the product exhibits a distinct change in performance.

4. Avoid using your telephone during a lightning storm. There may be a remote risk of electric shock from lightning. If possible, unplug the AC adaptor and telephone cord for the duration of the lightning storm.

5. Never dispose of batteries in a fire and never short the battery.
   There is a serious risk of explosion and / or the release of highly toxic chemicals.

6. When going on holiday or not using the phone for a long period of time, please disconnect the mains power from the base and remove the battery pack from the handset.

7. If the handset is not used for a long time and the battery becomes fully discharged, please recharge the handset for a minimum of 24 hours before using again.

8. If the battery is self-discharged by not using for a long period of time, the operation time can be shorter than normal.
   To recover the full storage capacity of the battery, recharge the battery for a minimum of 24 hours and use until it is fully discharged.
   This process needs to be repeated several times.

9. The battery has a limited operating life.

10. Clean the charging points with a dry cloth from time to time.

11. Save these instructions.

4. Test Mode

1. Structures of TEST PROGRAM

1.1 The files neccessary for TEST PROGRAM execution

1.1.1 Neccessary files for executing program

Following files should be installed for TEST PROGRAM execution

- JIGPCx.EXE : TEST execution program
- BASEEMC.DAT : stores the EMC code of Baseset
- HANDEMC.DAT : stores the EMC code of Handset
- BASEFLAG.DAT : stores the Flag information for requesting the new EMC code of BASESET
- HANDFLAG.DAT : stores the Flag information for requesting the new EMC code of HANDSET
- IPEI.DAT : stores the IPEI currently working
- RFPI.DAT : stores the RFPI currently working
- PORT.DAT : stores the current established PORT number

1.1.2 The files changing during the execution of program

Following files are newly create or changed during the execution of program.

- Information files containing each country°Ø PSTN OPTION
  (SWEDEN.DAT, FRANCE.DAT, GERMANY.DAT °)¶
- BASESET.DAT : Daily information of baseset serial numbers(RFPI) written during manufacturing process
- HANDSET.DAT : Daily information of handset serial numbers(IPEI) written during manufacturing process

1.2 Procedures of TEST PROGRAM execution

1.2.1 Program installation

Make a directory and copy files(explained at chaptor 1.1.1) neccessary for the execution of program. Execute JIGPCx.EXE to run the program after the completion of installation.

1.2.2 Program execution

1. Select the PC's communication port(RS-232C port) connected to IIC CONVERTOR.
   If the program is executed, "SELECT SERIAL PORT" will be displayed.
   Select PORT 1 or PORT 2. If ENTER key is pressed without designating the PORT,
   it will automatically select the port previously used.

2. Select a set to be tested.
   Select HANDSET or BASESET.
   In consequence of the selection made above, the menu on which you can choose if you revise EMC or execute test program is displayed.
   Select 'MAIN MENU' to execute the test.

3. Connect the SP-R5100 to be tested to IIC CONVERTOR and power it on.
   To set the TEST MODE in HANDSET, power on by pressing OK button with holdin INT button down.
   When the TEST MODE setup is successfully completed, TEST menu will be displayed on HANDSET LCD.
   No response in 2 seconds after sending 'TEST MODE SETUP' request to PC makes TEST MODE SETUP state end.
   HANDSET supports MANUAL TEST MODE by using its keypad. To set up MANUAL TEST MODE, press ¶ ßutton while checking 2-secondiong response.
   For the BASESET, power on by connecting power jack while holding PAGING button down.
   TEST MODE SETUP state is indicated by lighting PAGING LED on the BASESET.
   It waits the response from PC after sending 'TEST MODE setup request' to PC.
   There is no time limit unlike HANDSET. Once it's in TEST MODE state, it consistantly waits the respose.

4. Select Test Item
   PC received the 'TEST MODE setup request' from a set sends back respose and displays TEST MAIN MENU on the screcn.
   Each test item proceeds referring to the contents on LCD. To finish TEST MODE, select "0)EXIT" from the TEST MODE MENU. If you force TEST MODE to end by turning the power off, the changes may not be stored.

1.3 AUTO TEST MODE

1.3.1 CTR 6 / CTR 10 TEST

To test CTR 6 TEST MODE related to RF test, an equipment supporting CTR 6 TEST such as HP8923 is needed. CTR 10 TEST MODE is used to test functions of the phone related to voice.

1. Select "Z)TM" on MAIN TEST MENU.
2. Select CTR 6 or CTR 10. TEST MODE ends after setting up CTR 6 or CTR 10.

1.3.2 ID Writing

ID writing is used to change the serial number of the HANDSET or BASESET.
It's called RFPI for BASESET, IPEI for HANDSET.

1. Select "C)RFPI" or "C)RFPI on MAIN TEST MENU.
   Previous and next IDs are displayed.

2. Input ID

When you press any key, ID is written by adding 1. When press SHIFT-F10, written by subtracting 1. Press SHIFT-F1 to input ID directly, Esc to finish.

1.3.3 EEPROM DUMP

EEPROM DUMP is used to read the contents of the EEPROM of the BASESET or HANDSET.

It is also used to analize the causes for a inferior SET.

1. Press ALT-F on MAIN TEST MENU.
2. Input file name to save the dumped contents. If you input file name, PC gets 512 byte size contents of from the EEPROM of the set and save it as the name you input.

   It takes about 50 seconds.

1.3.4 ERROR TREATING

"COMMUNICATION ERROR" is displayed when problem occurs while tranfering data between the PC & SET.

When the message is seen, check the connection between PC & SET or state of the set.

When found no oddity try TEST MODE SETUP after getting rid of the power of the set.

1.4 MANUAL TEST MODE

1.4.1 MANUAL TEST MODE

MANUAL TEST is performed by using keypad on HANDSET.

It also works alone without separable PC & IIC CONVERTOR. Followings are suppoted in MANUAL TEST MODE.

1. CTR 6 TEST
2. CTR 10 TEST
3. SOFTWARE VERSION CHECK
4. INITIALIZE SUBSCRIPTION
5. WRITE EEPROM
6. ESCAPE MANUAL TEST MODE

   TEST MENU above performs with Up & Down scroll buttons. Searched TEST MENU is selected by pressing OK button.

1.4.2 MANUAL TEST MODE SETUP

1. To set up MANUAL TEST, press INT button then OK on HANDSET to turn the power on.
2. Press ¶ within 2-second-long TEST SETUP period. If MANUAL TEST MODE is set up correctly, "CTR 6" message (which is the first TEST MENU) appears on HANDSET LCD.

   If MANUAL TEST MODE is not set up in 2 seconds, MANUAL TEST MODE ends.

1.4.3 CTR 6 TEST

To test CTR 6 TEST MODE related to RF, an equipment supporting CTR 6 TEST such as HP8923 is needed.

1.Press Up or Down button repeatedly until “TBR 6” apprears on HANDSET LCD.
Press OK.
CTB 6 TEST MODE is set up.

1.4.4 CTR 10 TEST

CTR 10 TEST MODE is for testing functions of the phone related to voice such as Loudness test.

1.Press Up or Down button repeatedly until “TBR 10” appears on HANDSET LCD.
Press OK.
2.Input Loudness value of the HANDSET. The Loudness value ranges from 0 to 9.
The loudness level “Hign / Mid / Low” for normal state corresponds to “2 / 1 / 0”.

1.4.5 SOFTWARE VERSION CHECK

Verifying the date when the program made & its version.

1.Press Up or Down button repeatedly until “Version” messgae appears on HANDSET LCD.
Press OK. The date and version appears.

1.4.6 INITIALIZE SUBSCRIPTION

Being used to set up the HANDSET to initial state.

1.Press Up or Down button repeatedly until “CLEAR SUB” message appears on HANDSET LCD.
Press OK. It initializes registered information in EEPROM for 10 seconds. MANUAL TEST MODE ends.

1.4.7 WRITE EEPROM

Changing information Byte in EEPROM 1 for the HANDSET. Changed Information will be saved when MANUAL TEST MODE ends.

1.Press Up or Down button repeatedly until “CHANGE DATA” appears on HANDSET LCD.
Press OK.
2.Input new EEPROM address with the keypad in decimal system.
3.Search the data you want to change with Up or Down button. Press OK button to input the data.
When change made, it goes back to the previous MENU. (“CHANGE DATA”)

1.4.8 ESCAPE MANUAL TEST MODE

Being used to escape from MANUAL TEST MODE. If information in EEPROM has changed while running MANUAL TEST MODE. MANUAL TEST MODE ends after updating the information changed.

1.Press Up or Down button repeatedly until “ESCAPE TEST” message appears on the HANDSET LCD.
Press OK.
It checks if the EEPROM information has changed, if so, update new INFORMATION in the eeprom.
It takes about 10 seconds.

2. Specification

1. Carrier Frequencies
   1) Handset TX : 1881.792 ~ 1897.344 MHz
   2) Handset RX: 1881.792 ~ 1897.344 MHz
   3) Baseset TX : 1881.792 ~ 1897.344 MHz
   4) Baseset RX : 1881.792 ~ 1897.344 MHz

2. Number of Operating Channel / Slot : 10 Channels / 24 Slots

3. Channel Spacing : 1728 kHz

4. Frequency Drift : ± 15 kHz/Slot

5. RF Power Output : Peak 250 mW (AVG. = 10 mW)

6. Frequency deviation : ± 202 kHz ~ ± 403 kHz

7. Speech Coding Method / Coding Rate : ADPCM / 32 kbps

8. Data Speed : 1152 kbps

9. Model Specifications
   1) Size
      - Handset : 172 X 61 X 37 [mm]
      - Baseset : 164 X 127 X 83 [mm]
   2) Weight
      - Handset : 158 [g]
      - Baseset : 223 [g]

10. Environmental Conditions
   1) Operating Temperature : - 10℃ ~ + 40℃
   2) Power Supply
      - Baseset : AC/DC Adaptor
        - Input : AC 230 V 50 Hz
        - Output : DC 9 V 150 mA, DC 9 V 400 mA Dual output Type.
      - Handset : Rechargeable Ni-MH Battery (DC 1.2 V x 3 pcs/530 mAH)

11. Charging & Discharging Currents of Handset
   1) Charging Current
      - Normal Charge : 60 ± 10 mAH
      - Trickle Charge : 15 ± 10 mAH
   2) Consumption Current
      - Talk Mode : Less Than 70 mAH
      - Standby Mode : Less Than 10 mAH
      - Power off Mode : Less Than 1 mAH

12. Compliances :
   CTR6
   CTR10
   CTR 22

3. Function Structures

1. Function Structures

1.1 Overview of Functional Operation

- The programming mode starts by pressing [◦]„or [◦]Â Key in Idle or Not Subscribed Mode.

- If ESC key is pressed or low voltage state is detected while carrying out the programming mode, it quits the programming mode.
  In this case, the changes are not stored and it goes back to the previous stats, Idle or Not Subscribed Mode which are previous states.

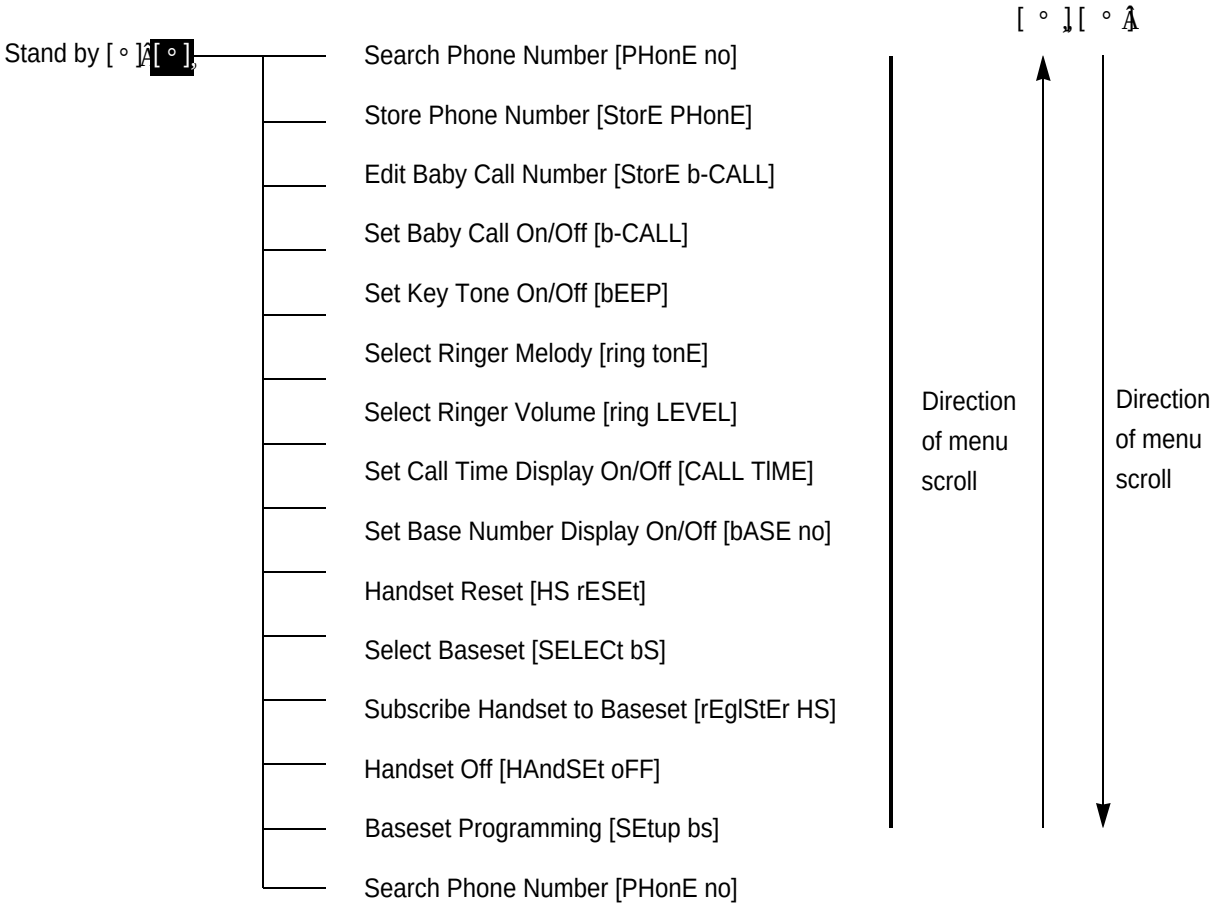
- When selecting the programming menu, some of them may not be displayed depending on the state of fixed or portable part.
  For the portable part, 'Select Baseset°Ø and 'Æ Baseset Programming°Ø menus are displayed only when the portable part is registered to more than one fixed part, otherwise they are not displayed.
  In some countries using 'Tone' only, 'Select Dial Mode' is not displayed.
  In Ciuntries using 'Flash' only, 'Select Register Recall Mode' is not displayed for the fived part.
  °Æ Long Flash°Ø menu which is a surbodinate of 'Select Register Recall Mode°Ø is displayed for the countries - currently Germany - which support this function only.

- If an incoming call is detected during the programming mode, the programming mode is cancelled and conversed to the connected state.
  However there are two exceptions.
  When registering the portable part to the fixed part and the portable part is not registered to the fixed part.
  In such cases incoming call will be ignored.

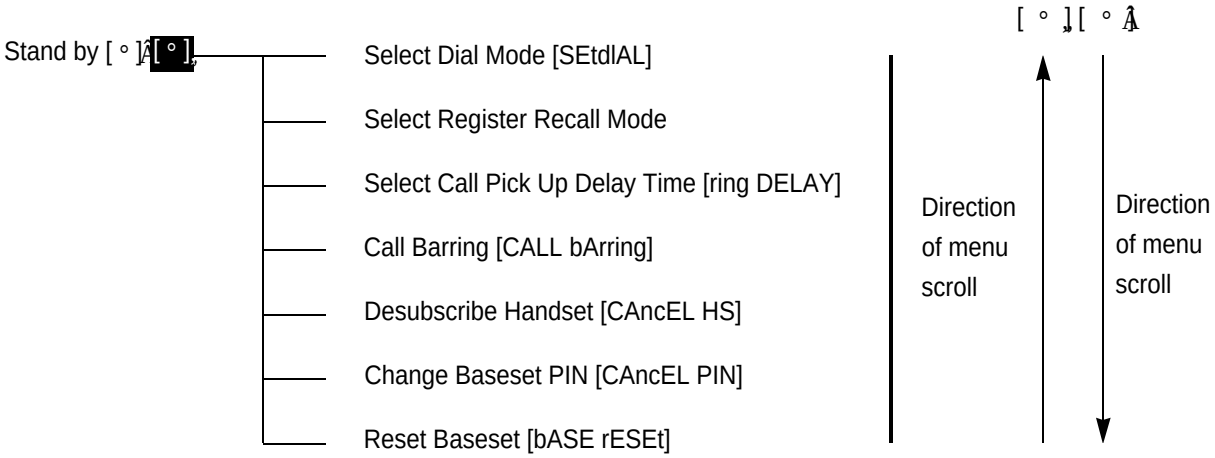
- In the programming mode,it ignores the unrelated inputs.
  It goes back to Idle Mode or Not Subscribed Mode with audible sound When the installation of functions is completed normal.

1.2 Function tree

1.2.1 Function tree related with portable part


Stand by [∘]Â[∘],
Search Phone Number [PHonE no]
Store Phone Number [StorE PHonE]
Edit Baby Call Number [StorE b-CALL]
Set Baby Call On/Off [b-CALL]
Set Key Tone On/Off [bEEP]
Select Ringer Melody [ring tonE]
Select Ringer Volume [ring LEVEL]
Set Call Time Display On/Off [CALL TIME]
Set Base Number Display On/Off [bASE no]
Handset Reset [HS rESEt]
Select Baseset [SELECt bS]
Subscribe Handset to Baseset [rEglStEr HS]
Handset Off [HAndSEt oFF]
Baseset Programming [SEtup bs]
Search Phone Number [PHonE no]
[∘],[∘ Â
Direction of menu scroll
Direction of menu scroll

1.2.2 Function Tree of Baseset


Stand by [∘]Â[∘],
Select Dial Mode [SEtdlAL]
Select Register Recall Mode
Select Call Pick Up Delay Time [ring DELAY]
Call Barring [CALL bArring]
Desubscribe Handset [CAncEL HS]
Change Baseset PIN [CAncEL PIN]
Reset Baseset [bASE rESEt]
[∘],[∘ Â
Direction of menu scroll
Direction of menu scroll

1.3 Function table

1.3.1 Function table related with portable part

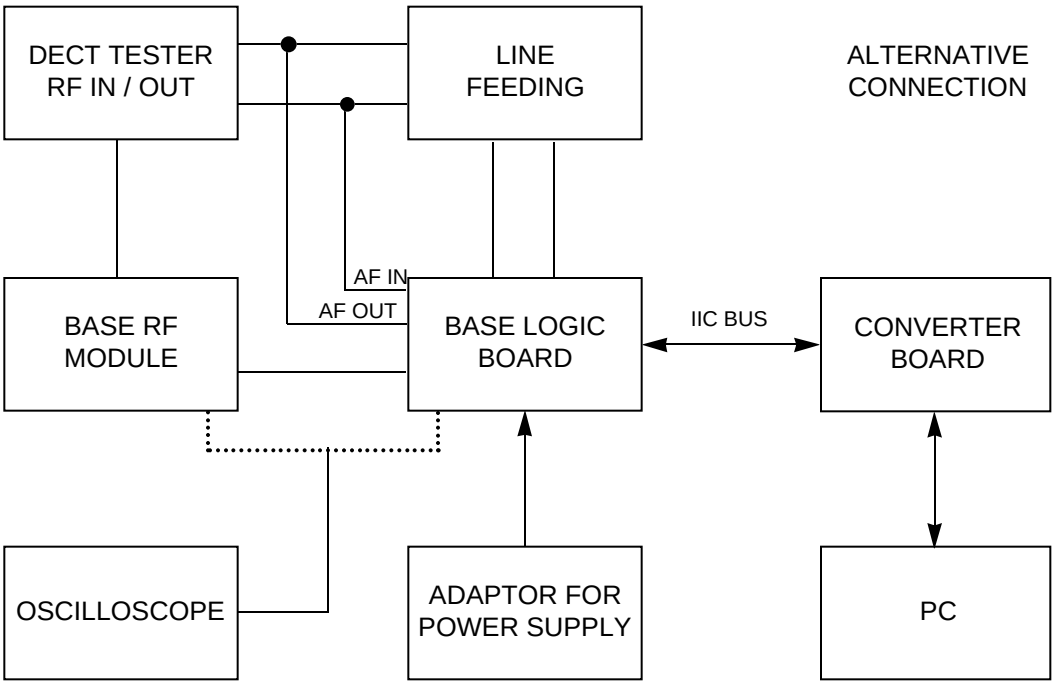
◦ [Power]	
Pressing [OK] button for more than a sec in power off state	Power ON
Pressing [OD] button for more than a sec in power on state	Key lock set up / release
◦ [◦]Â[◦]„··· [Selecting the function]···[OK]	
[◦]Â[◦]„	Calling state - Vol. adjust Stand by state - Set up function mode
1 - SEARCH PHONE NUNMBER	Search phone number
2 - STORE PHONE NUNMBER	Store phone number
3 - STORE BABY CALL NUMBER	Store baby call number
4 - SET BABY CALL ON / OFF	Baby call set up / release
5 - SET KEY CLICK TONE ON / OFF	Key click tone set up / release
6 - SELECT RINGER MELODY	Select ringer melody
7 - SELECT RINGER VOLUME	Select ringer volume
8 - SET CALL TIME DISPLAY ON / OFF	Call time display set up / release
9 - SET BASE NUMBER DISPLAY ON / OFF	Base number display set up / release
10 -HANDSET RESET	Initialize portable part
11 -SELECT BASESET	Select fixed part
12 -SUBSCRIBE HANDSET TO BASESET	Subscribe Handset to Baseset
13 -HANDSET OFF	Handset power off
14 -BASESET PROGRAMMING MODE	Baseset programming mode

1.3.2 Function table related with fixed part

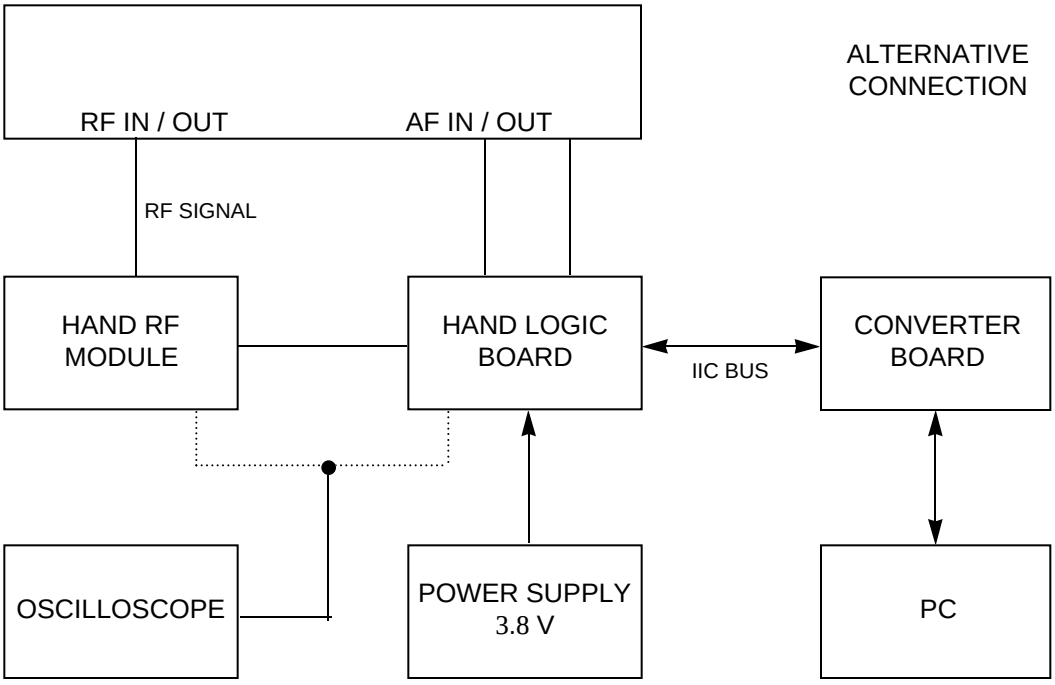
◦ BASESET PROGRAMMING MODE	
1 - SELECT DIAL MODE	Select TONE / PULSE mode
2 - SELECT REGISTER RECALL MODE	Select FLASH / EARTH mode
3 - SELECT CALL PRIORITY	Select call priority
4 - CALL BARRING	Call barring
5 - DESUBSCRIBE HANDSET	Desubscribe handset
6 - CHANGE BASESET PIN	Change baseset pin
7 - BASESET RESET	Initialize fixed part

6. Alignment & Adjustment

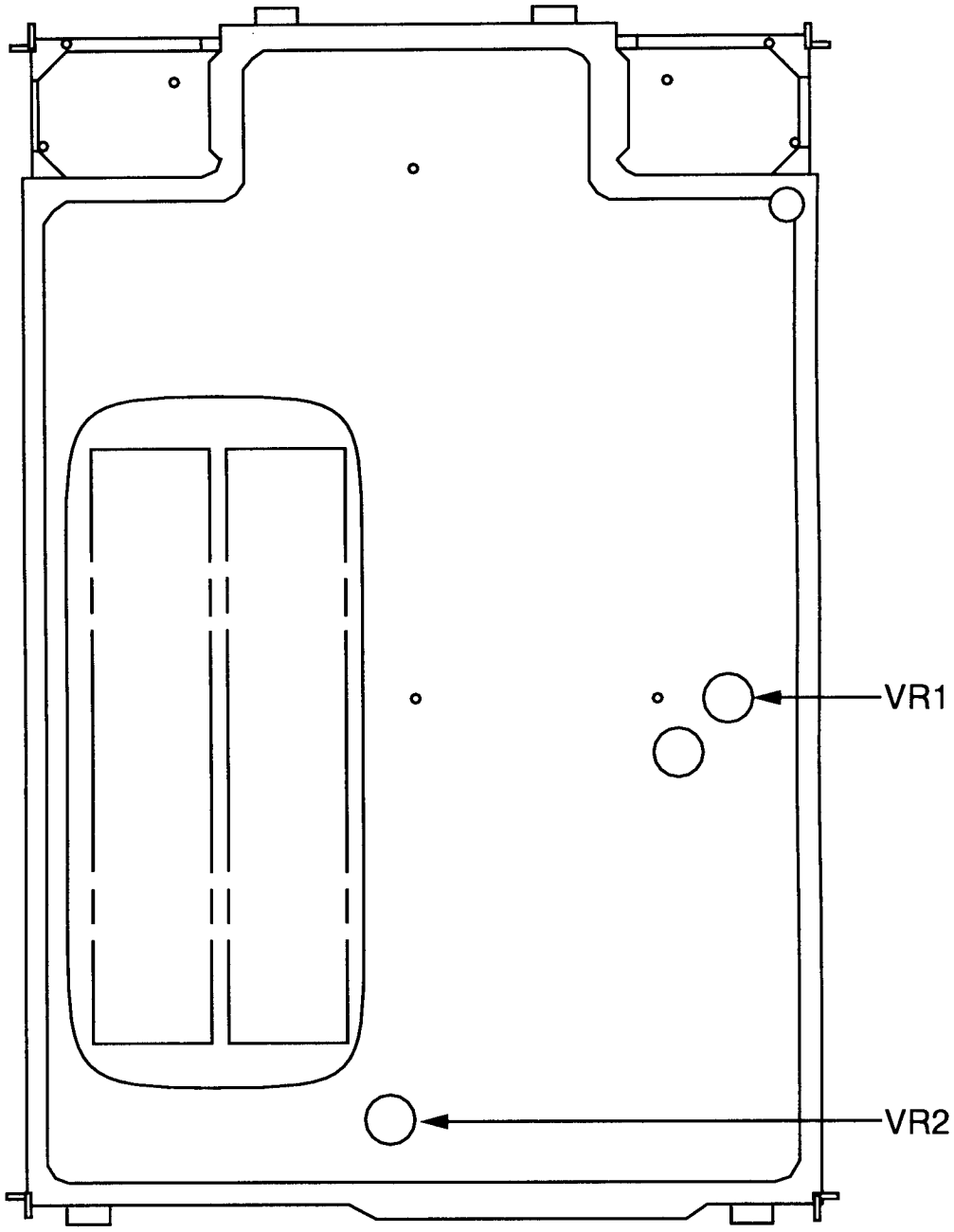
1. Alignment (Baseset RF Module)



2. Alignment (Handset RF Module)



3. Adjustment(Baseset/Handset RF Module)



4. Baseset Part

NO	ITEM	SPEC	CONDITION	TP
1	X-TAL OSC. FREQUENCY	13.824 X 10^6 ° 30 Hz	- CONNECT BASESET TO PC - GO TO “TEST MODE” AT PC - CONNECT R98 TO FREQUENCY COUNTER - SELECT ACO AT PC - ADJUT IT TO SPEC VALUE BY PRESSING “<” OR “>” KEY AT PC	R98
2	NTP	20 dBm ~ 24 dBm	- CONNECT BASESET TO PC - CONNECT RF MODULE TO DECT TESTER - KEEP PRESSING PAGING KEY AND POWER BASESET ON - GO TO TEST MODE AT PC - SELECT TBR6 MODE - ADJUST TP1	VR1
3	FREQ. ACCURACY	fo (CH 5) ° 50 kHz	- SAME CONDITION WITH NO. 2 - ADJUST TP2	VR2
4	Vref	2 V	- CONNECT BASESET TO PC - CONNECT RF MODULE TO DECT TESTER - KEEP PRESSING PAGING KEY AND POWER BASESET ON - GO TO TEST JIG MODE - SELECT RVREF AT PC - MEASURE THE VOLTAGE OF PIN 42 OF U13 WITH VOLT METER AND ADJUST IT TO 2.0 V BY PRESSING°ÆSHIFT°ØKEY +°Ø‹°ØOR°Æ>°ØKEY AT PC	PIN 42 OF U10

° fo (CH 5) = 1881.792 MHz

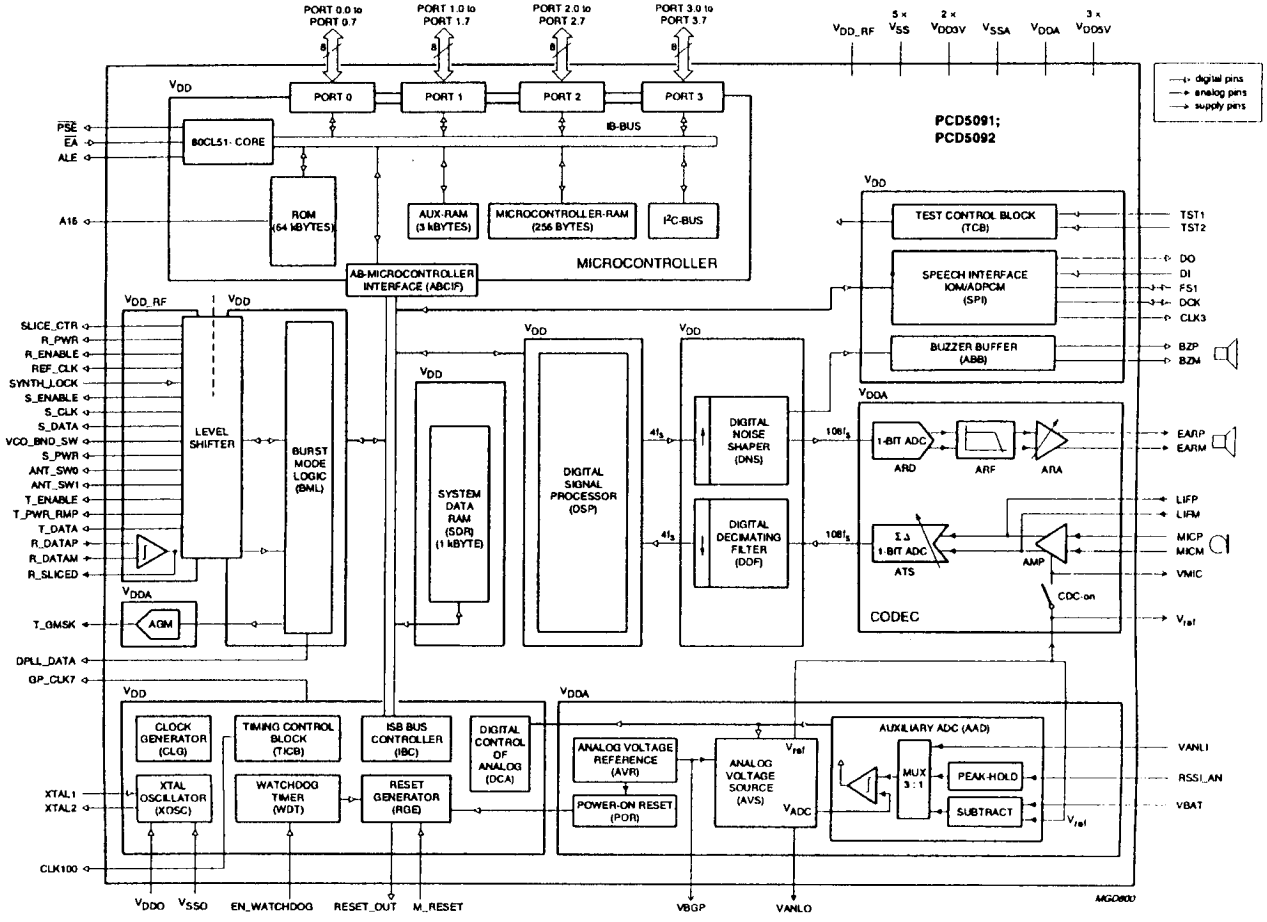
5. Handset Part

NO	ITEM	SPEC	CONDITION	TP
1	X-TAL OSC. FREQUENCY	13.824 X 10^6 ° 30 Hz	- CONNECT BASESET TO PC - GO TO “TEST MODE” AT PC - CONNECT R98 TO FREQUENCY COUNTER - SELECT ACO AT PC - ADJUST IT TO SPEC VALUE BY PRESSING “<” OR “>” KEY AT PC	C137
2	NTP	20 dBm ~ 24 dBm	- CONNECT RF MODULE TO DECT TESTER - INPUT PARI NUMBER TO TESTER - GO TO TEST MODE BY PRESSING ‘POWER’ KEY + ‘F’ KEY AT POWER OFF MODE - GO TO TBR6 MODE BY PRESSING ‘1’ KEY - ADJUST TP1	VR1
3	FREQ. ACCURACY	fo (CH 5) ° 50 kHz	- SAME CONDITION WITH NO. 2 - ADJUST TP2	VR2
4	Vref	2 V	- CONNECT HANDSET TO PC - CONNECT RF MODULE TO DECT TESTER - GO TO TEST MODE BY PRESSING ‘POWER’ KEY + ‘F’ KEY AT POWER OFF MODE - GO TO TBR6 MODE BY PRESSING ‘1’ KEY - GO TO TEST MODE AT PC - SELECT RVREF - MEASURE THE VOLTAGE OF PIN 42 OF U10 WITH VOLT METER AND ADJUST IT TO 2.0 V BY PRESSING °ÆSHIFT°ØKEY +°Æ°ØOR°Æ>°ØKEY AT PC	PIN 42 OF U13

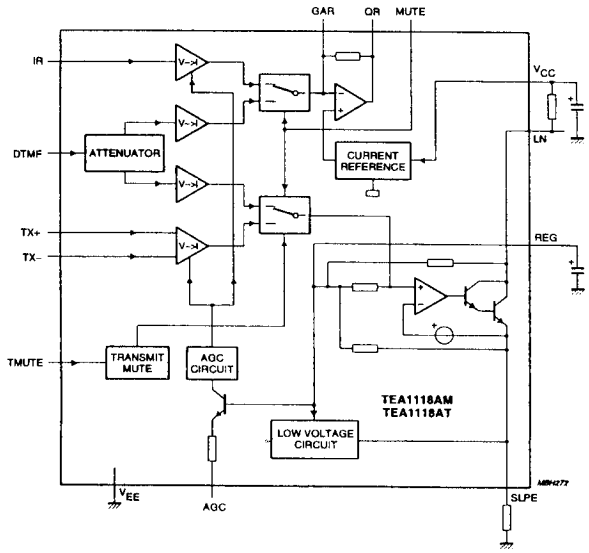
° fo (CH 5) = 1881.792 MHz

5. Component Pin Array

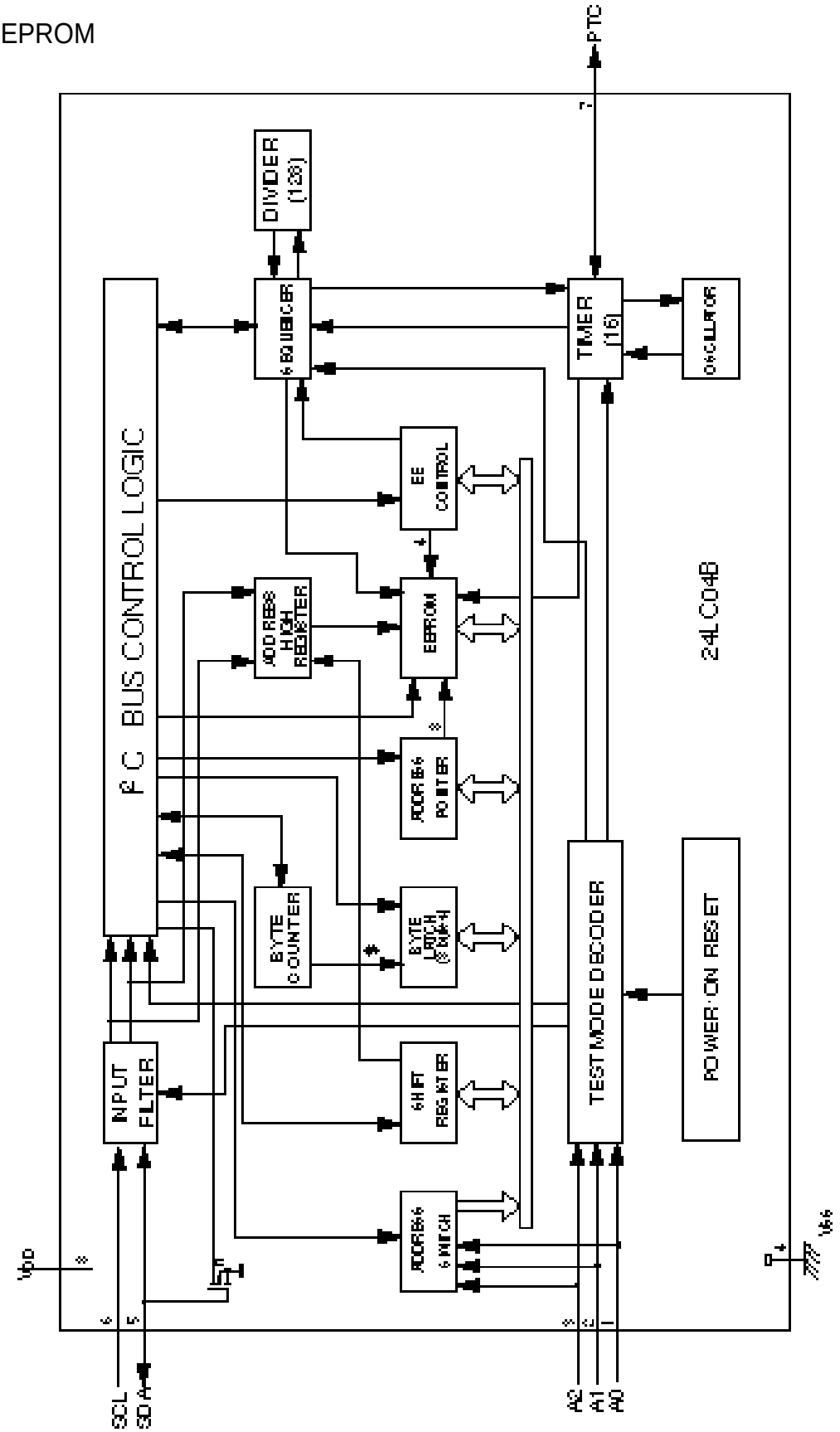
1. ABC Chip



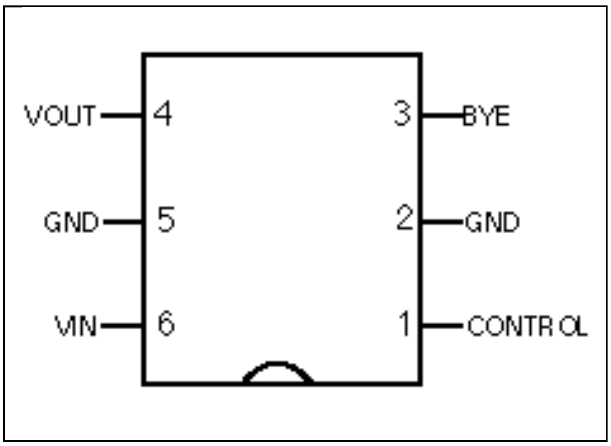
2. Speech IC



3. EEPROM

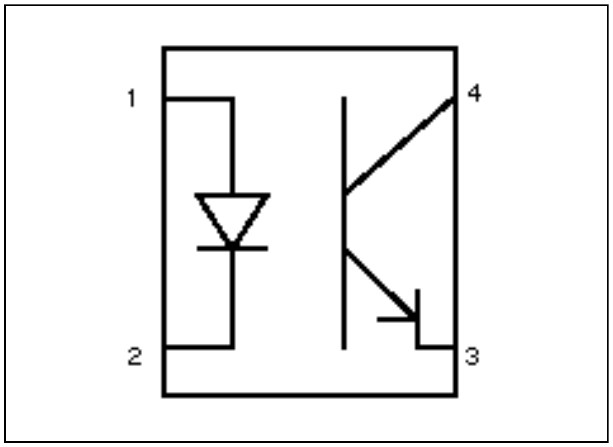

PTC
DIVIDER (128)
COMPARATOR
TIMER (16)
OSCILLATOR
I²C BUS CONTROL LOGIC
EE CONTROL
EEPROM
ADDRESS HIGH REGISTER
ADDRESS POINTER
BYTE COUNTER
BYTE LATCH (8 bit)
SHIFT REGISTER
ADDRESS COMPARATOR
INPUT FILTER
TEST MODE DECODER
POWER-ON RESET
24LC04B
SCL
SDA
A2
A1
A0

4. Votage Regulator



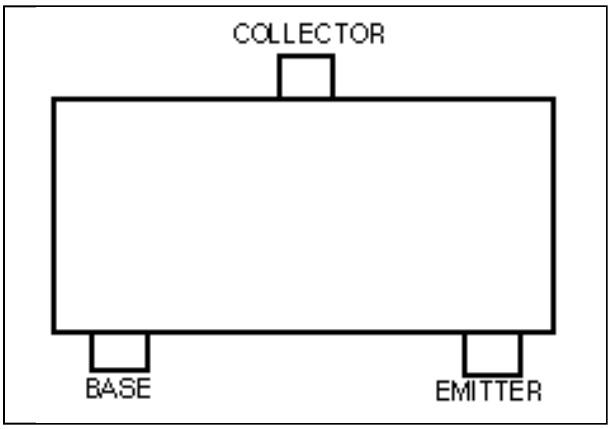
TK11233

5. Photo Coupler

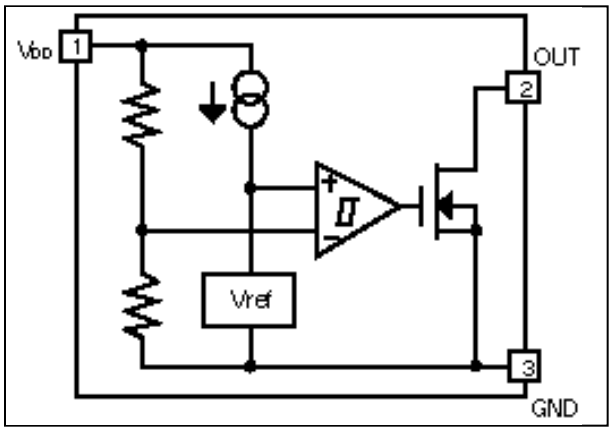


PC357

6. CHIP TR

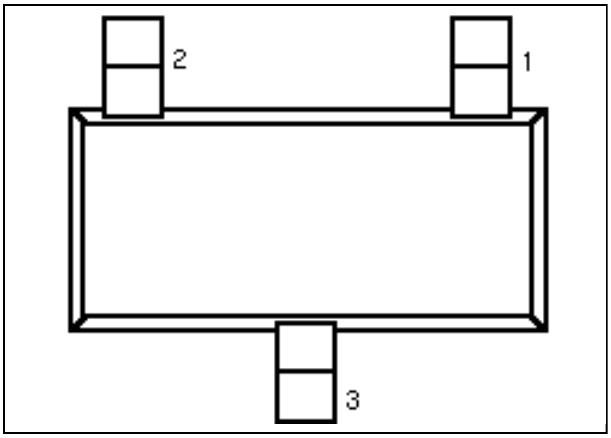


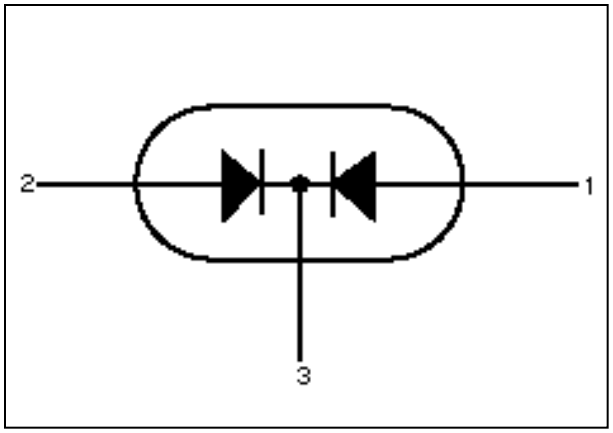
7. Voltage Detector



RN5VT30A

8. CHIP Diode (BAV70W)





7. Trouble Shooting

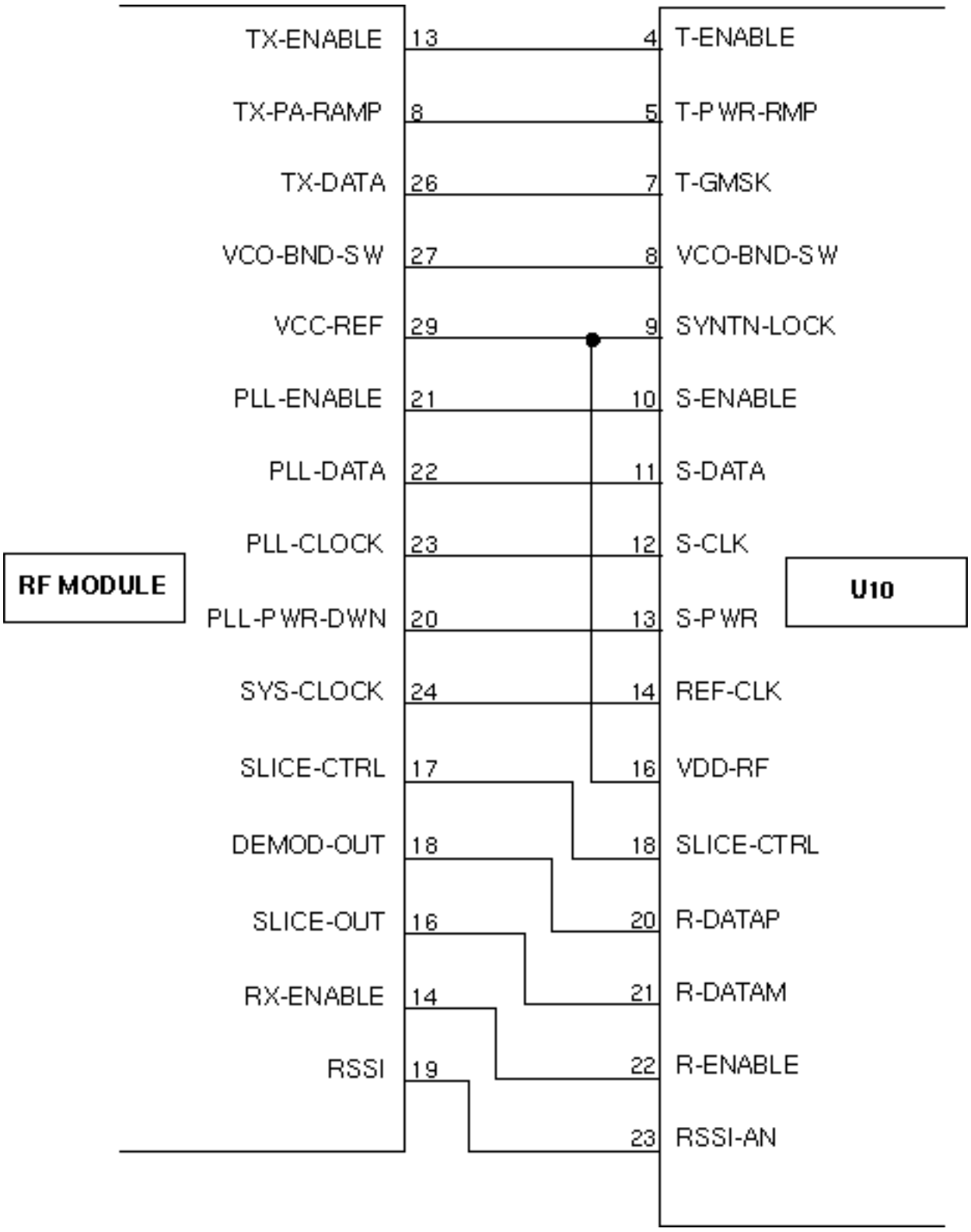
1. Trouble Shooting of RF Module

Check Points of U10 for H/S and B/S	STATUS					
	Rx			Tx		
	Idle Slot	Blind Slot	Active Slot	Idle Slot	Blind Slot	Active Slot
T_ENABLE (PIN4)	-	-	-	High	High	High
T_PWR_RMP (PIN5)	-	-	-	Low	Low	High
T_GMSK (PIN7)	-	-	-	High	High	Transmit Data
VCO_BND_SW (PIN8)	Low	Low	Low	High	High	High
SYNTH_LOCK (PIN9)	-	-	2.9 V	-	-	2.9 V
S_ENABLE (PIN10)	Low	High	Low	Low	High	Low
S_DATA (PIN11)	-	PLL Data	-	-	PLL Data	-
S_CLK (PIN12)	-	PLL CLK	-	-	PLL CLK	-
S_PWR (PIN13)	High	Low	Low	Low	Low	Low
REF_CLK (PIN14)	-	CLK	CLK	-	CLK	CLK
VDD_RF (PIN16)	-	-	2.9 V	-	-	2.9 V
SLICE_CTRL (PIN18)	High	High	Low For Short Time	-	-	-
R_DATAP (PIN20)	-	-	Demodulated Output Signal	-	-	-
R_DATAM (PIN21)	-	-	Approximately 1.4 V	-	-	-
R_ENABLE (PIN22)	High	High	Low	-	-	-
RSSI_AN (PIN23)	Level Low	Level Low	Level High (Over 1 V)	-	-	-

※Blind Slot : The Slot Before The Active Slot.

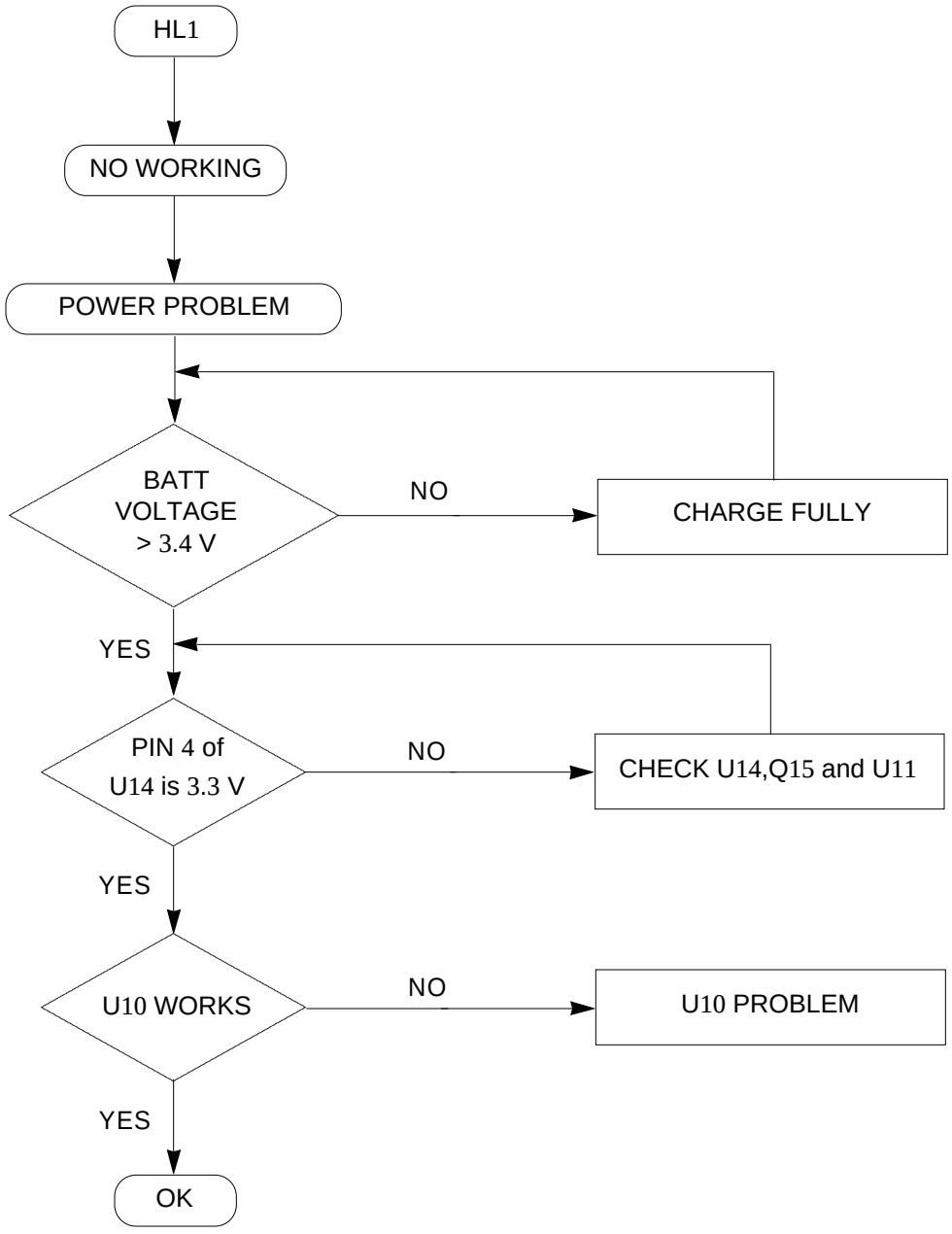
※REF CLK : In case of Baseset, It is oscillated continuously.

2. Base/Remote connections between RF Module and U10

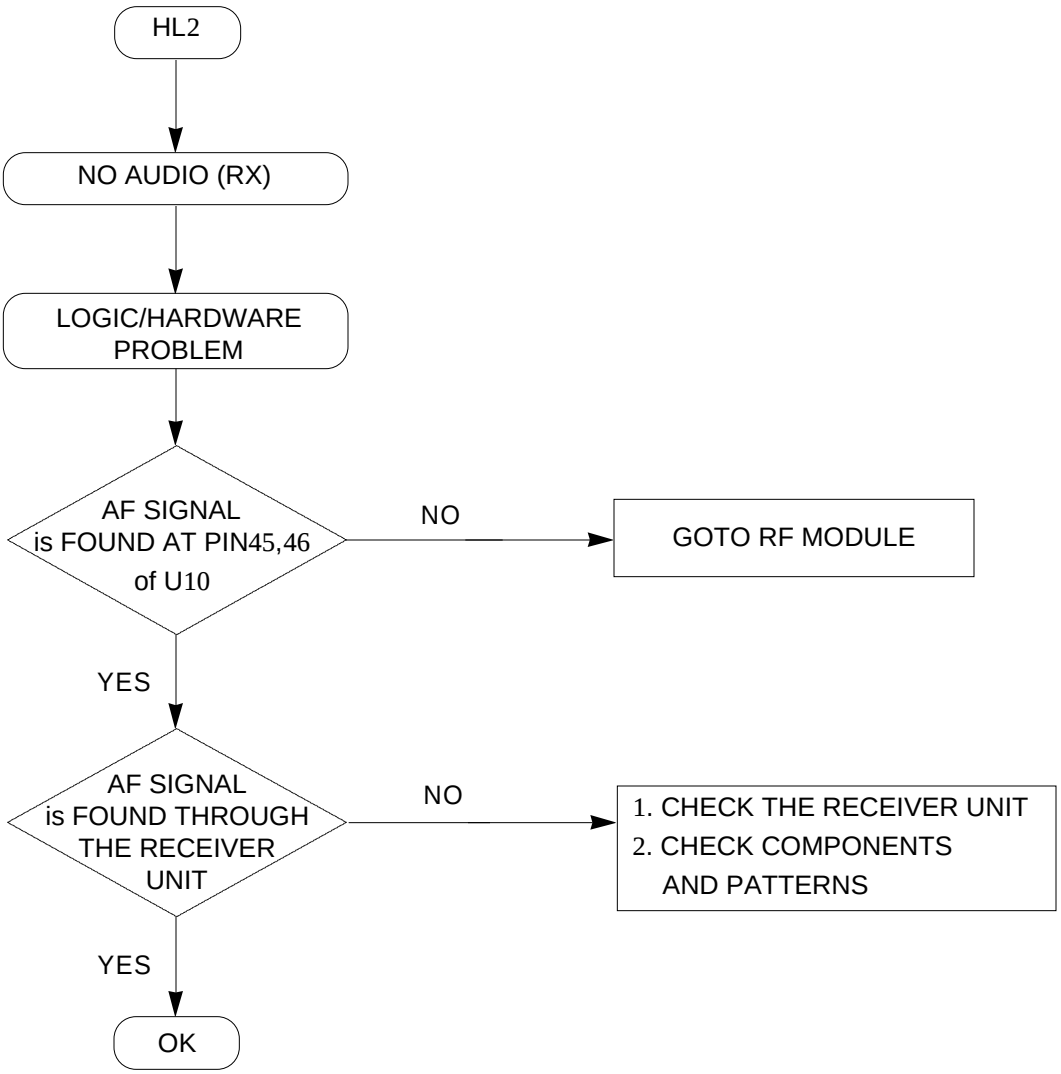


3. Trouble Shooting of Handset Logic

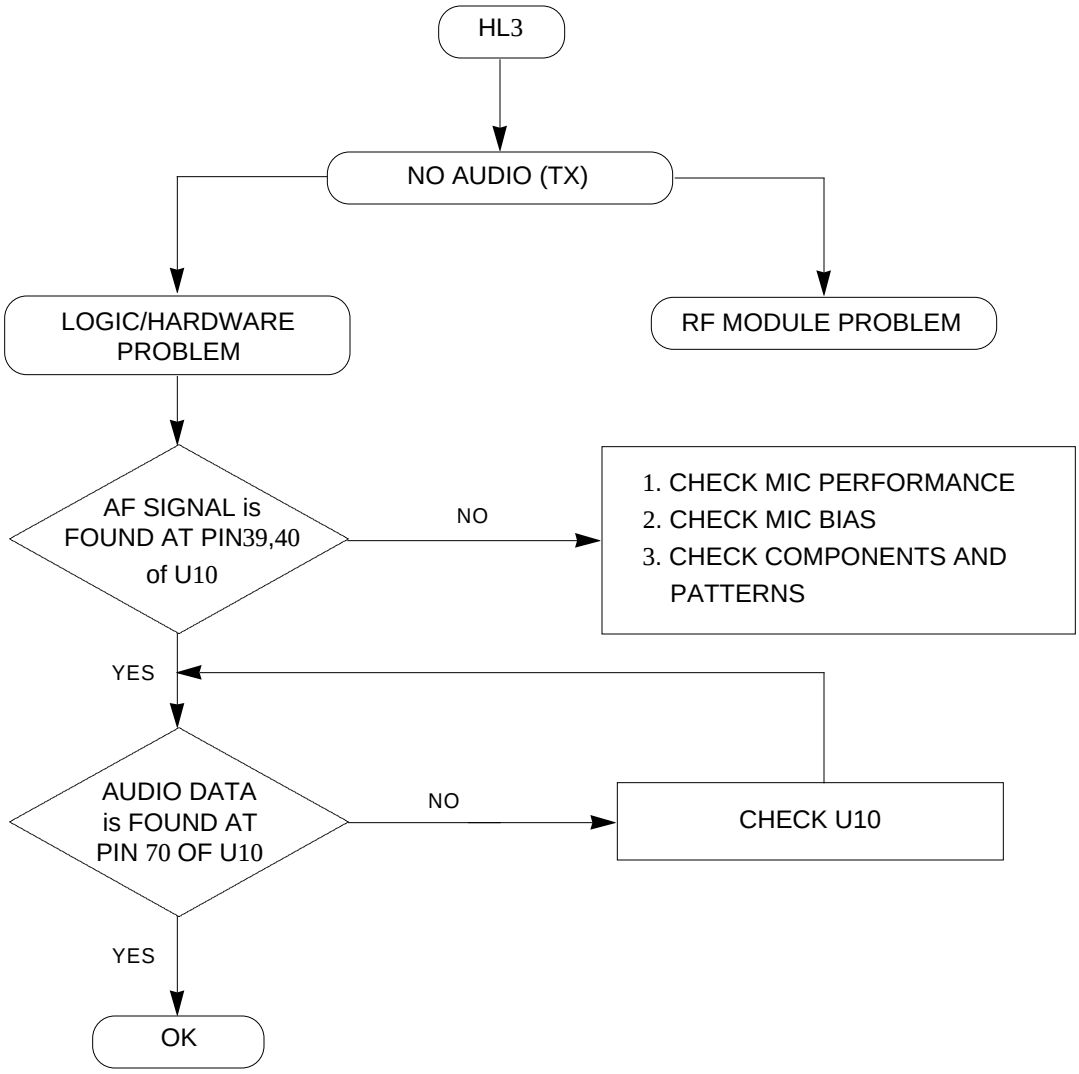
3-1. Power Problem



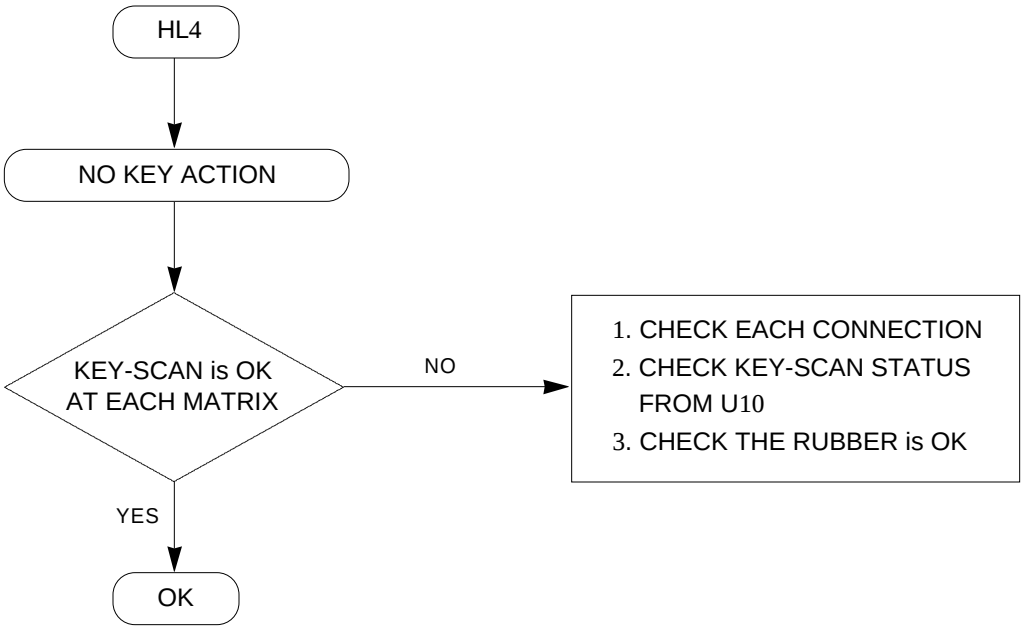
3-2. No RX Audio



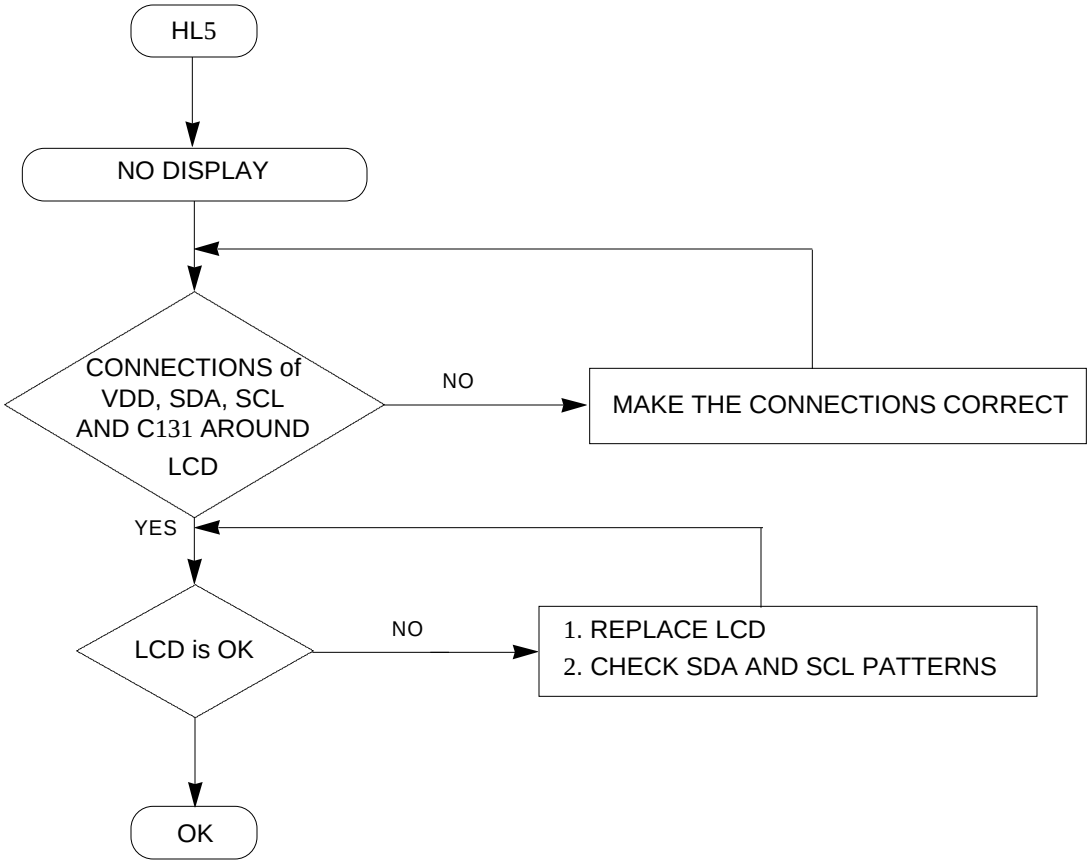
3-3. No TX Audio



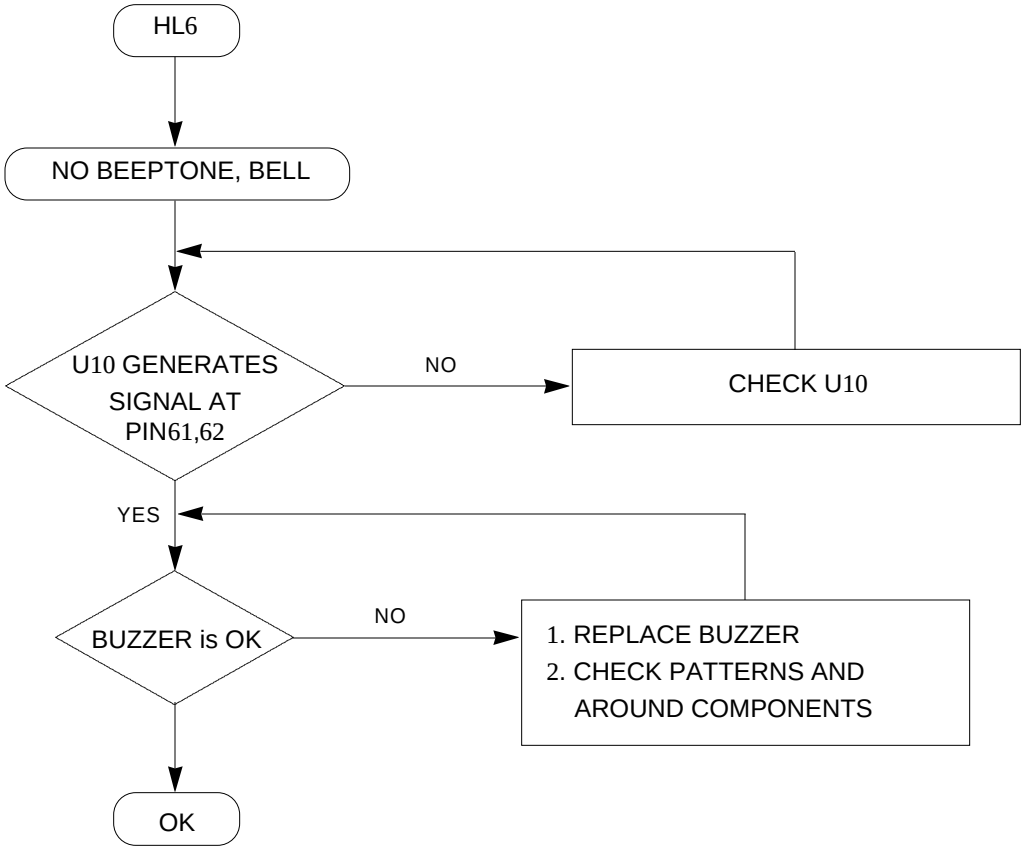
3-4. No Key Action



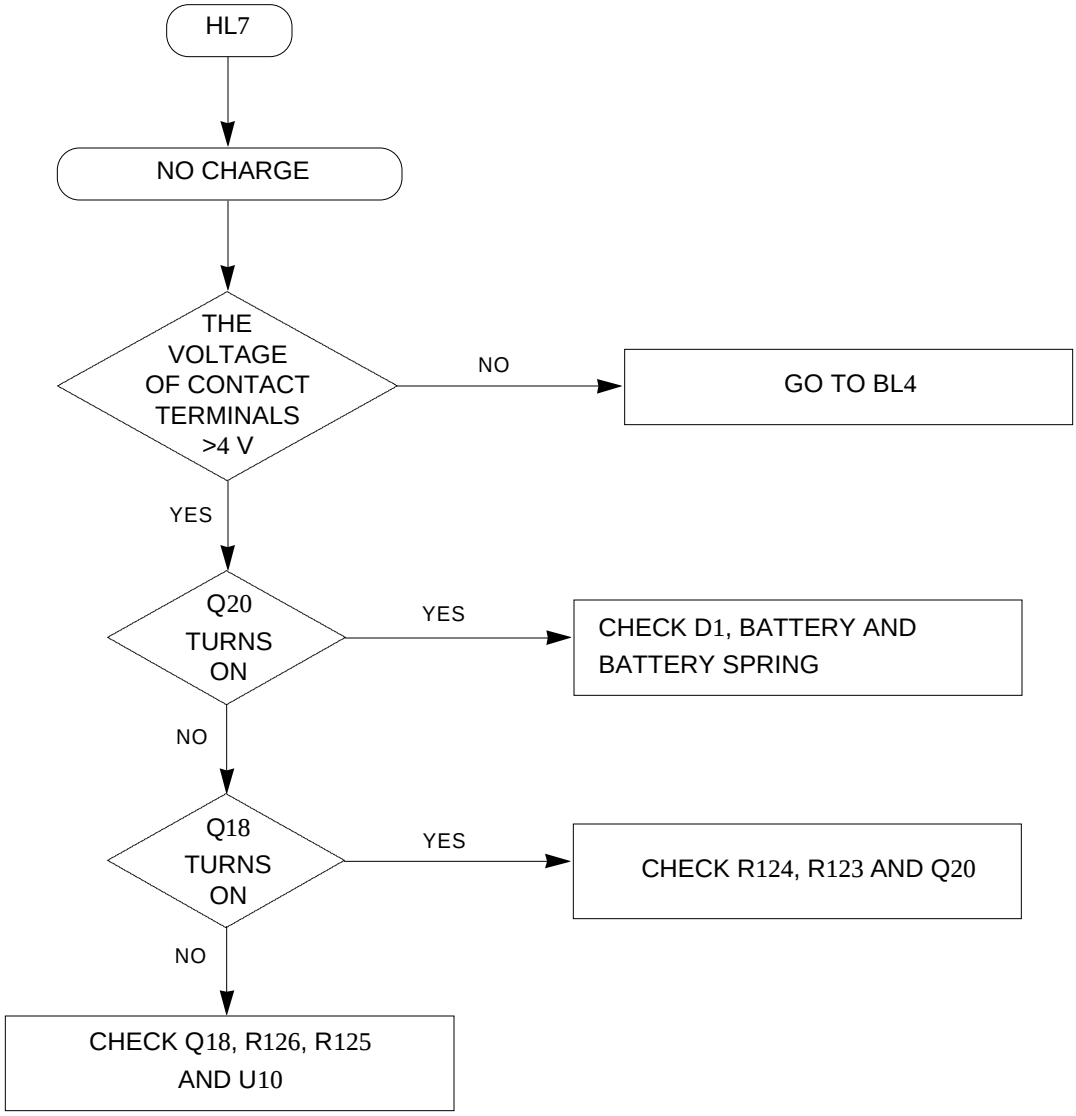
3-5. No Display



3-6. No Beeptone / No Ring

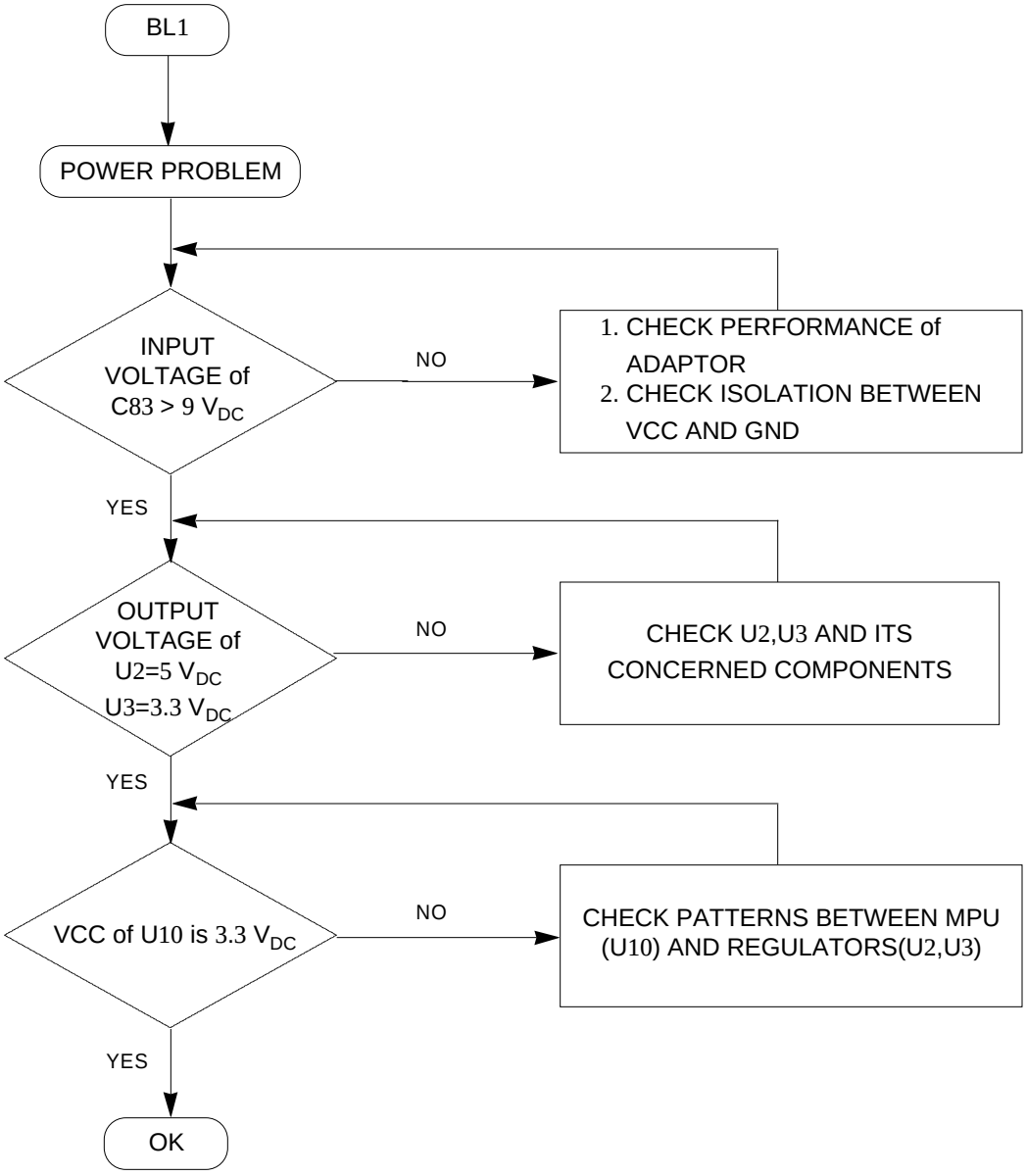


3-7. Charge Failure

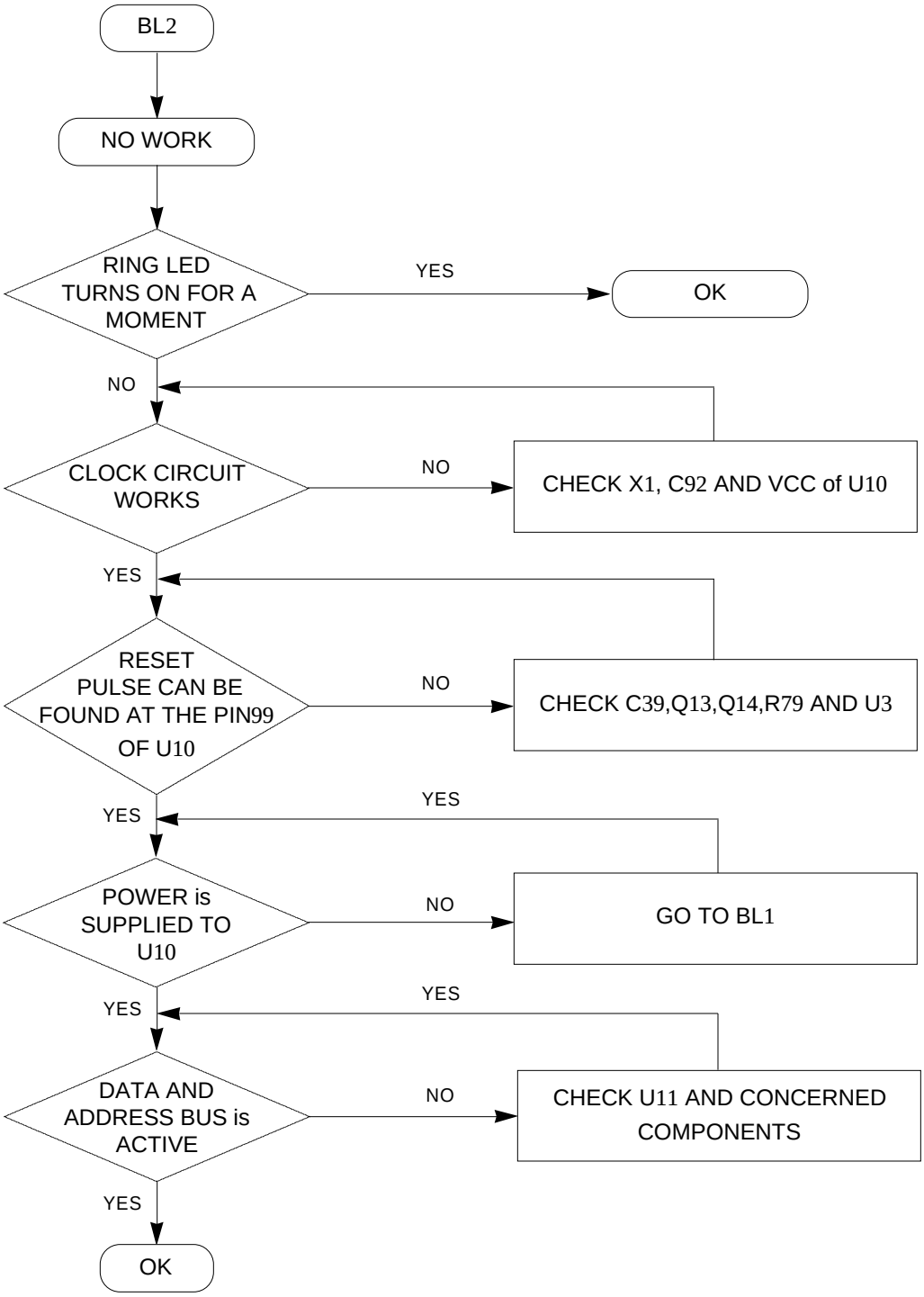


4. Trouble Shooting of Baseset Logic

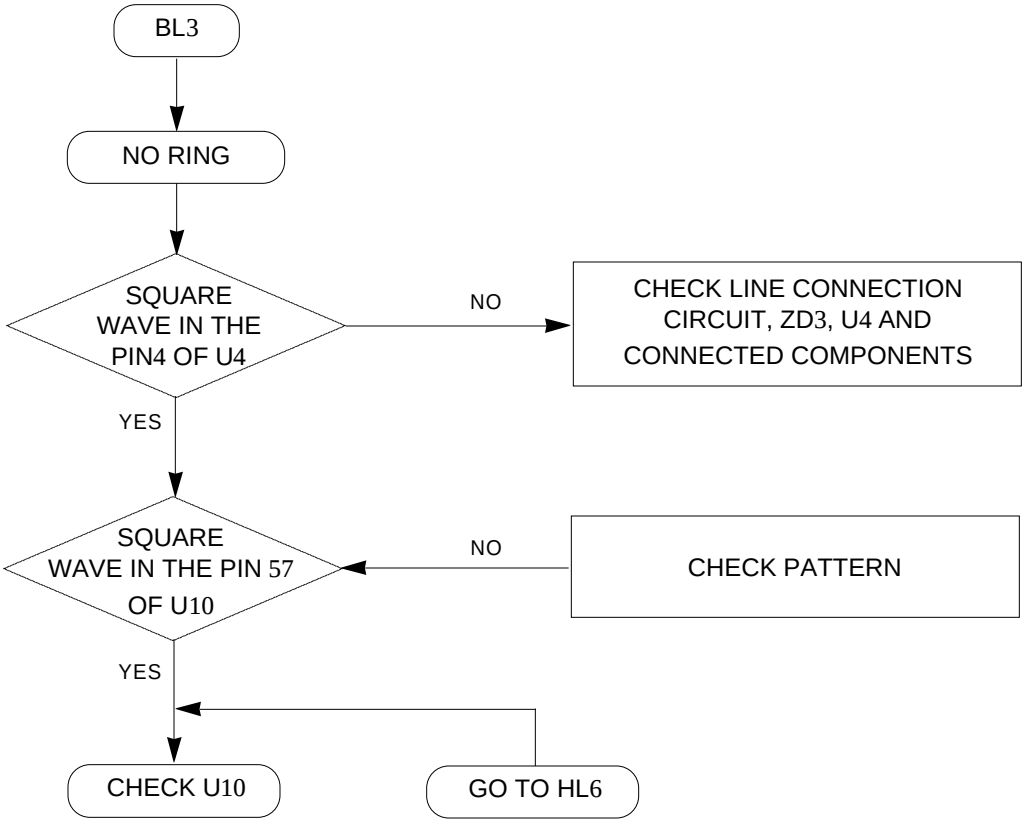
4-1. Power Problem



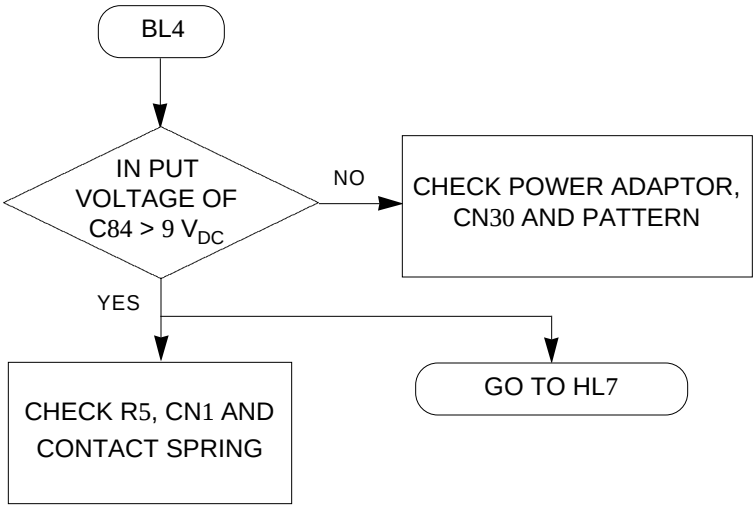
4-2. No Work


BL2
NO WORK
RING LED TURNS ON FOR A MOMENT
YES
OK
NO
CLOCK CIRCUIT WORKS
NO
CHECK X1, C92 AND VCC of U10
YES
RESET PULSE CAN BE FOUND AT THE PIN99 OF U10
NO
CHECK C39,Q13,Q14,R79 AND U3
YES
YES
POWER is SUPPLIED TO U10
NO
GO TO BL1
YES
YES
DATA AND ADDRESS BUS is ACTIVE
NO
CHECK U11 AND CONCERNED COMPONENTS
YES
OK

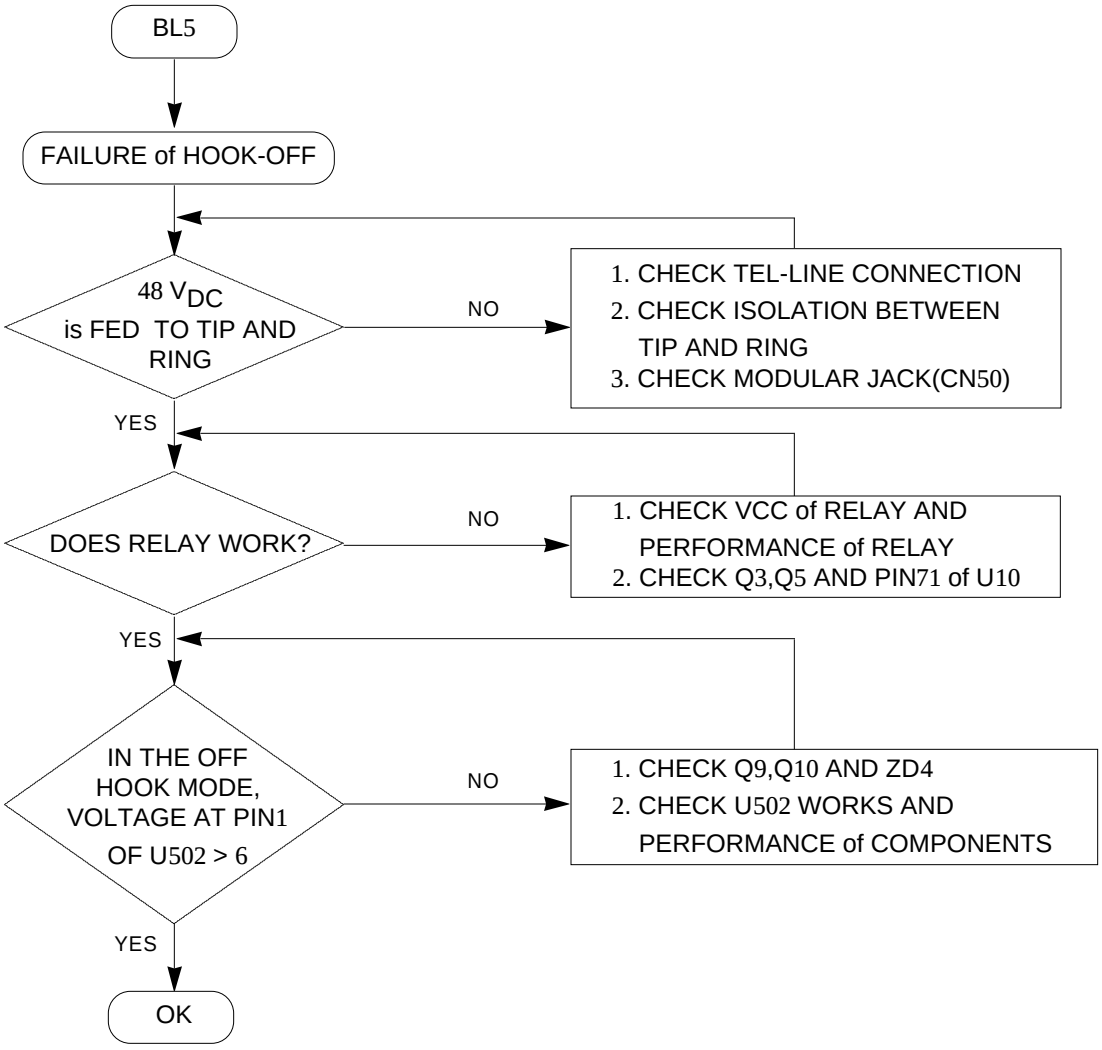
4-3. No Ring



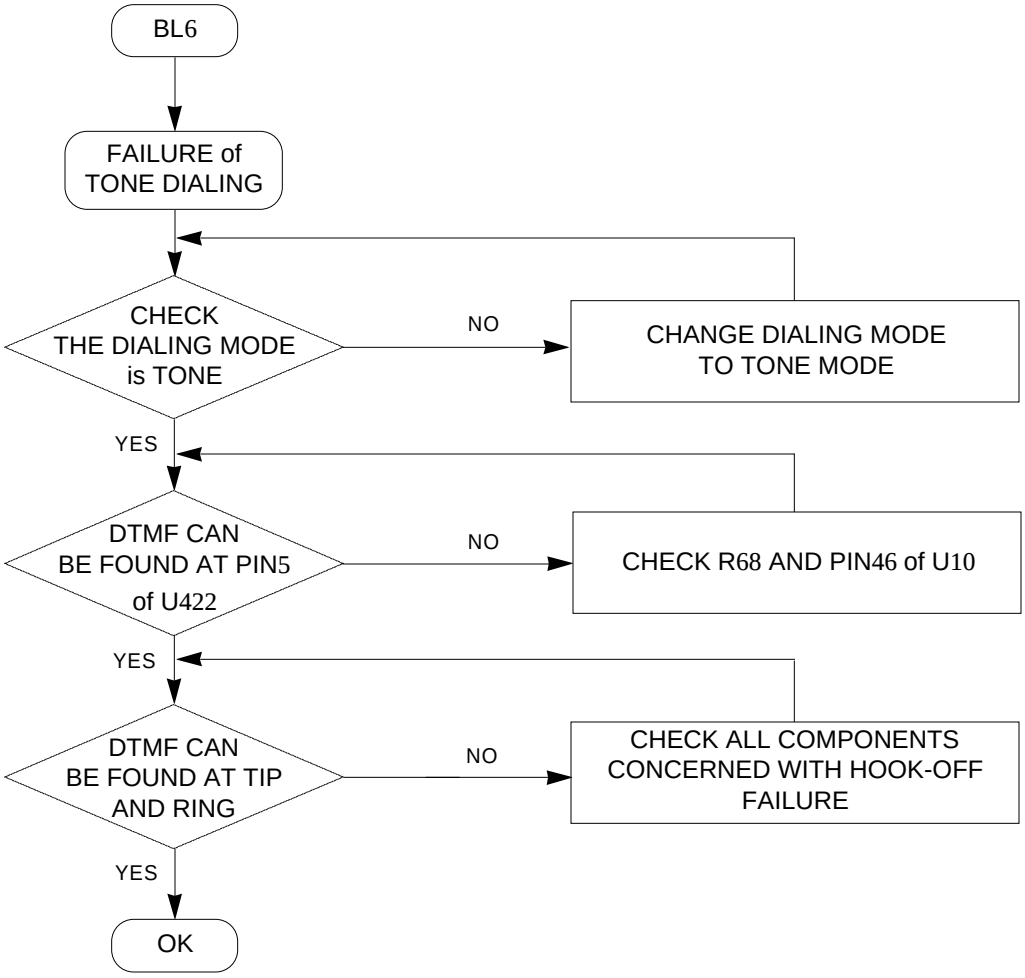
4-4. Charge Failure



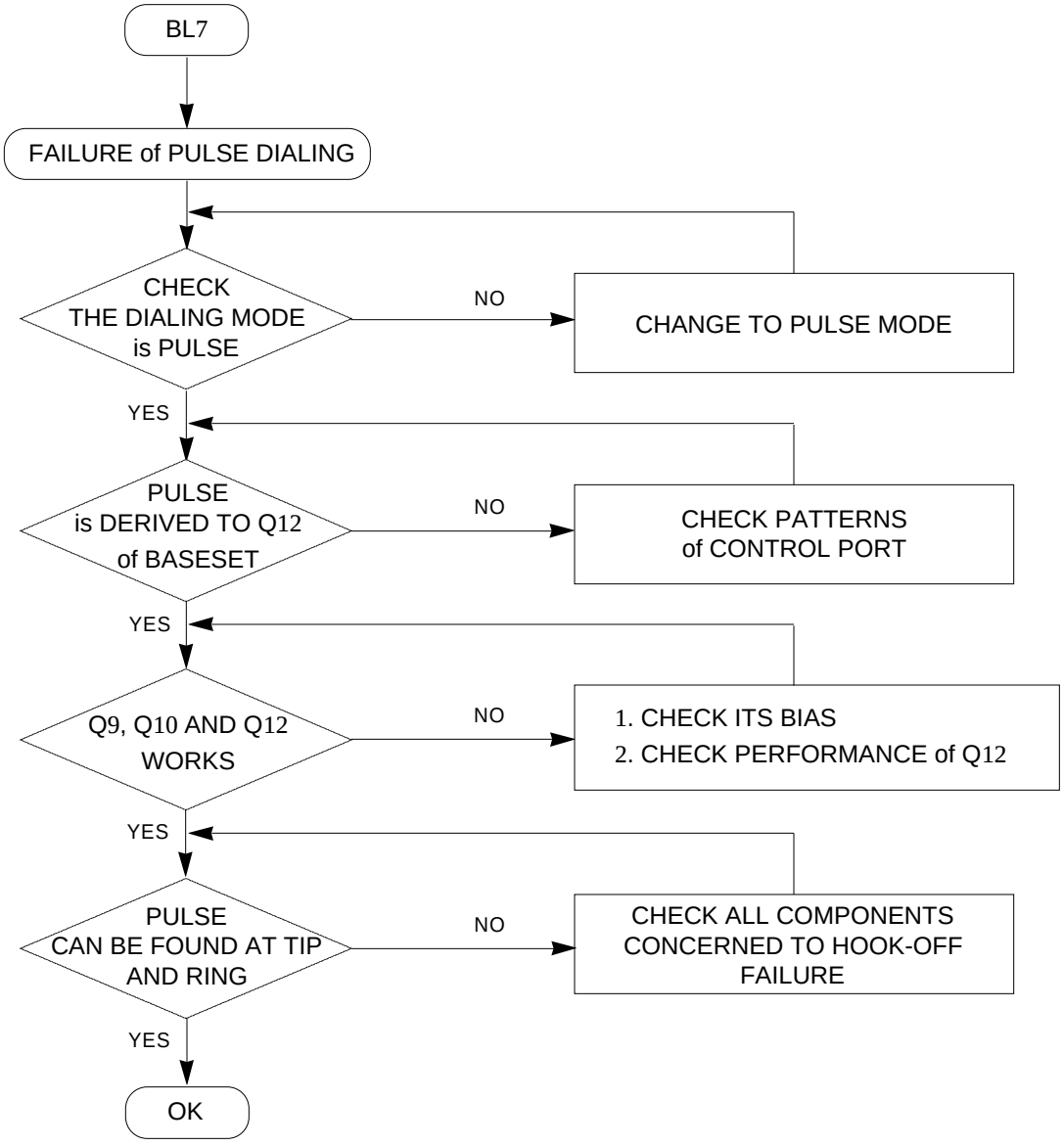
4-5. Failure of Hook-off


BL5
FAILURE of HOOK-OFF
48 V_{DC} is FED TO TIP AND RING
NO
1. CHECK TEL-LINE CONNECTION
2. CHECK ISOLATION BETWEEN TIP AND RING
3. CHECK MODULAR JACK(CN50)
YES
DOES RELAY WORK?
NO
1. CHECK VCC of RELAY AND PERFORMANCE of RELAY
2. CHECK Q3,Q5 AND PIN71 of U10
YES
IN THE OFF HOOK MODE, VOLTAGE AT PIN1 OF U502 > 6
NO
1. CHECK Q9,Q10 AND ZD4
2. CHECK U502 WORKS AND PERFORMANCE of COMPONENTS
YES
OK

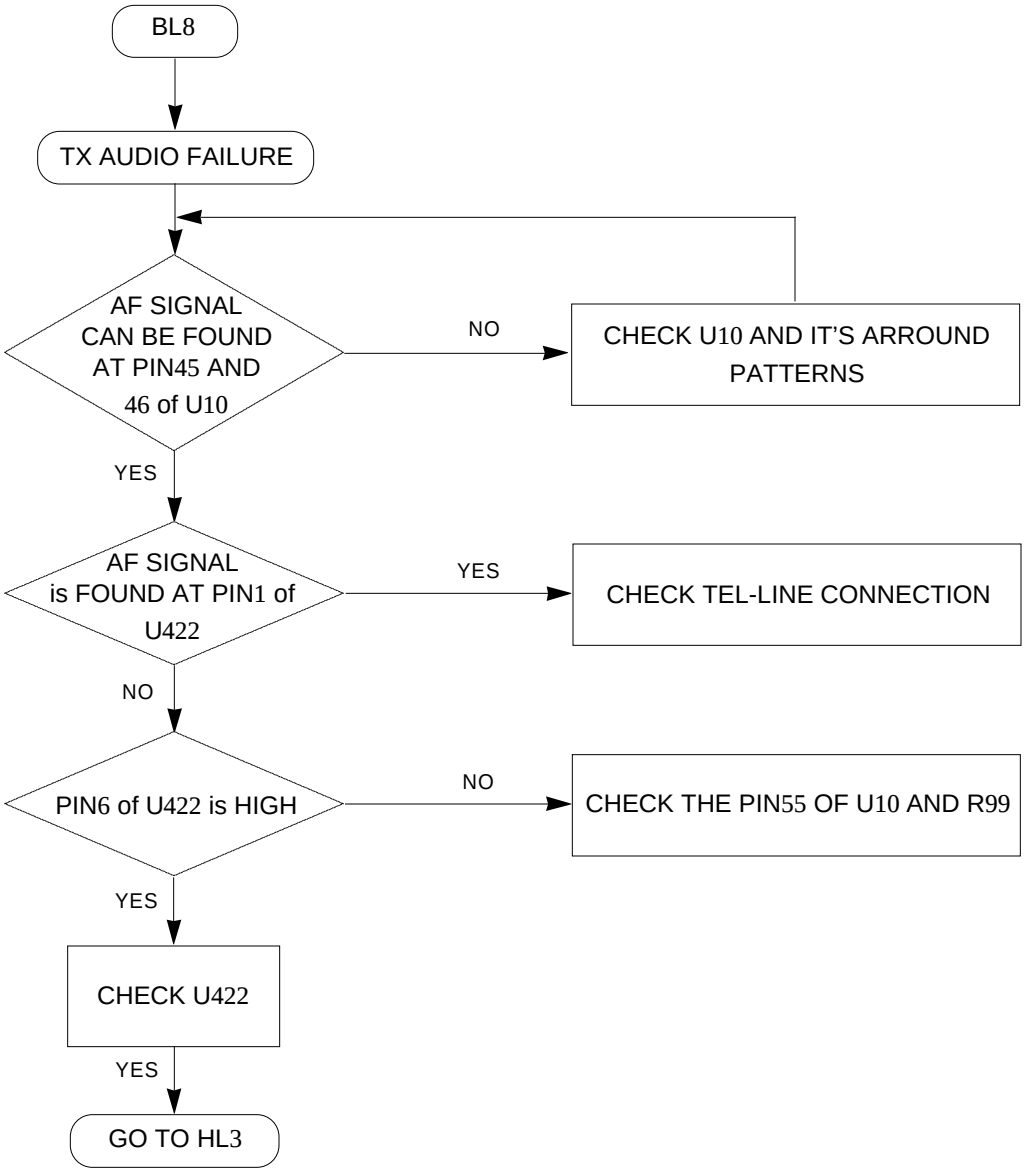
4-6. Failure of Tone Dialing



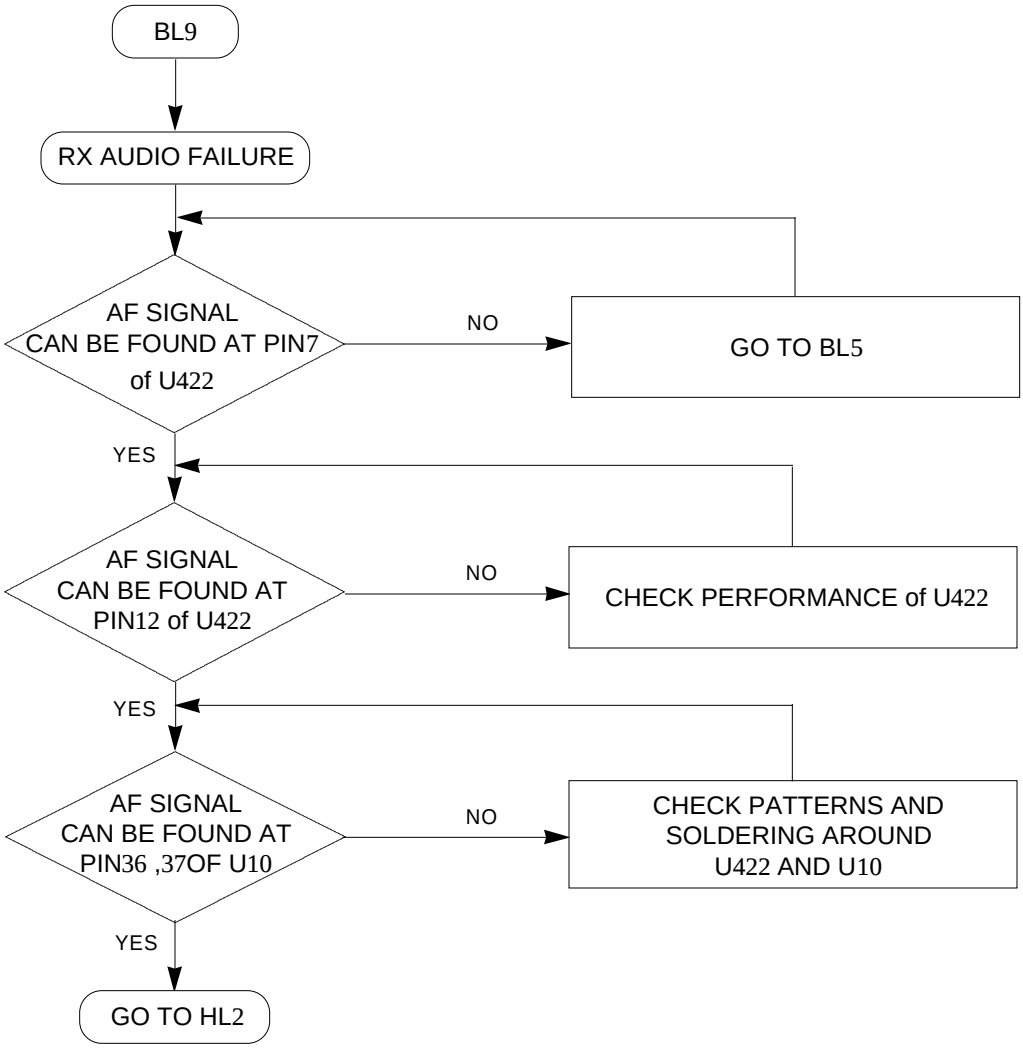
4-7. Failure of Pulse Dialing



4-8. TX Audio Failure

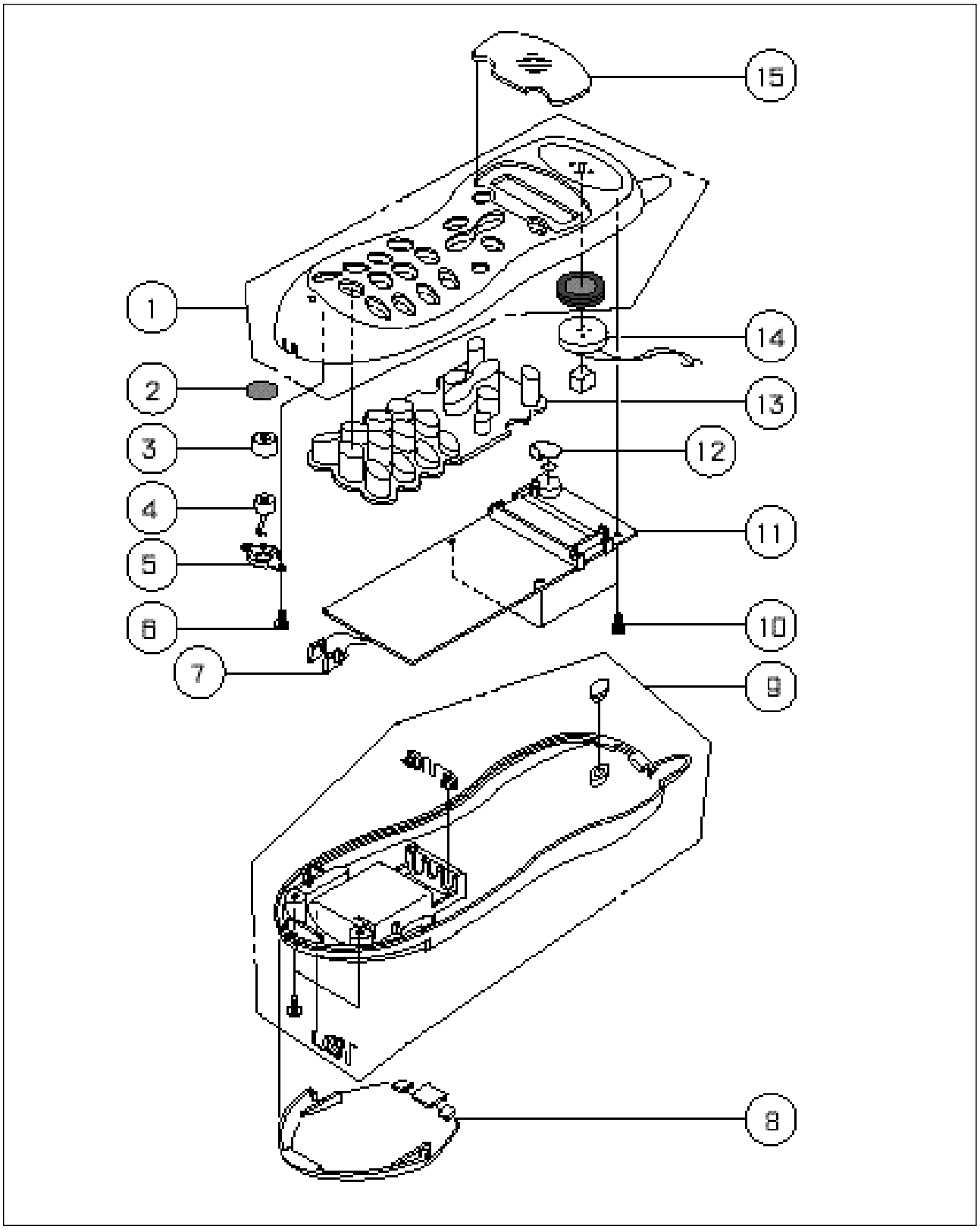


4-9. RX Audio Failure



10. Exploded Views and Parts List

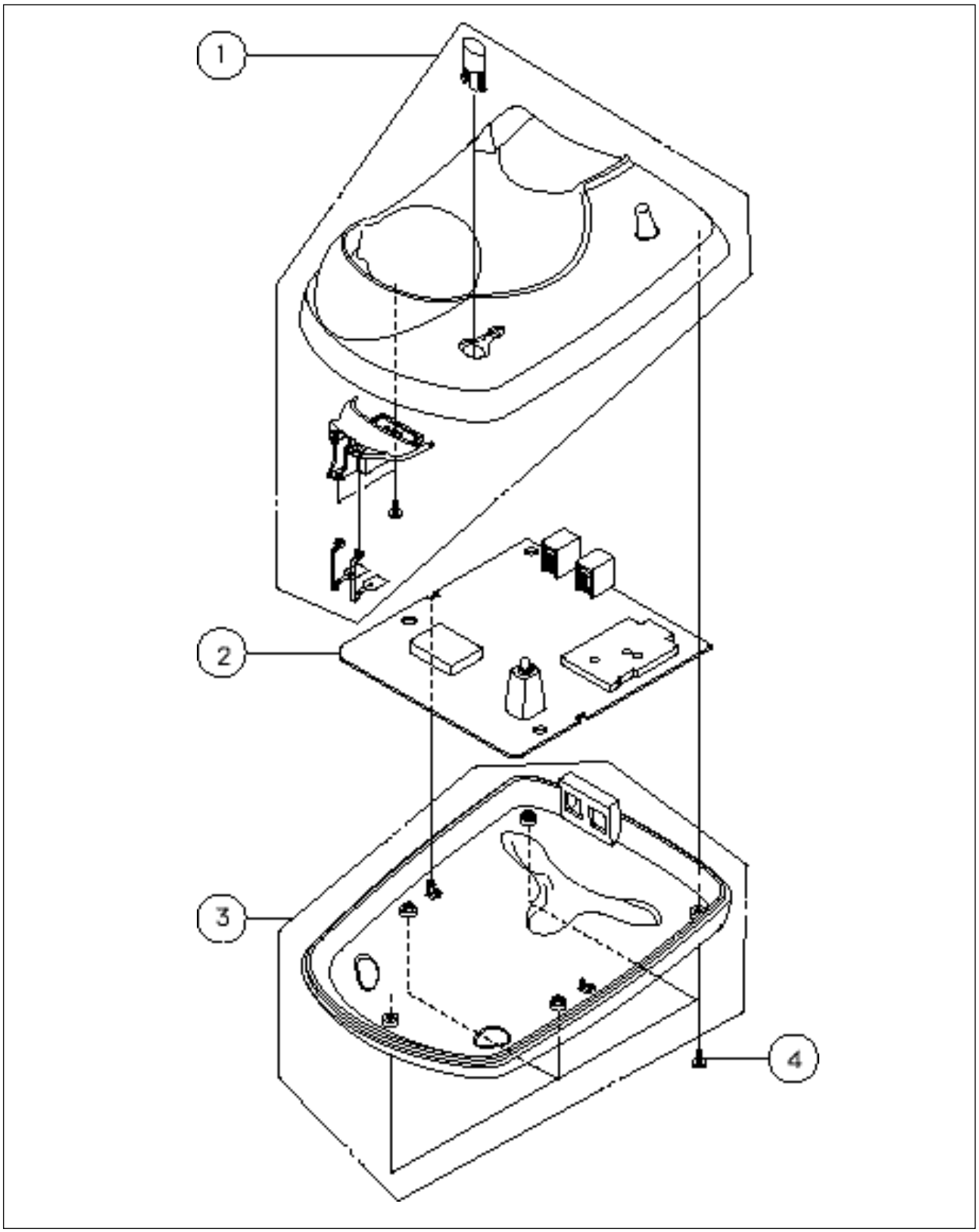
1. Remote Exploded View



2. Remote Part List

Location No.	Description	SEC Code	Remark
1	R/M LOWER ASS'Y	GG75-11149A	
2	MIC FILTER	GG74-10541A	
3	MIC HOLDER	GG73-40547A	
4	MIC	3003-001017	
5	MIC BRACKET	GG72-41449A	
6	SCREW M3 L10	6003-000159	
7	CONTACT "R", "L"	GG70-10633,4A	
8	BATTERY COVER	GG72-42559A	
9	R/M UPPER ASS'Y	GG75-11150A	
10	M2,5 L8 SCREW	6003-000149	
11	PBA	GG92-01219A	
12	BUZZER HOLDER	GG73-40706A	
13	KEY-PAD	GG73-40704A	
14	AUDIO RECEIVER	3009-001012	
15	LCD WINDOW	GG72-42565A	

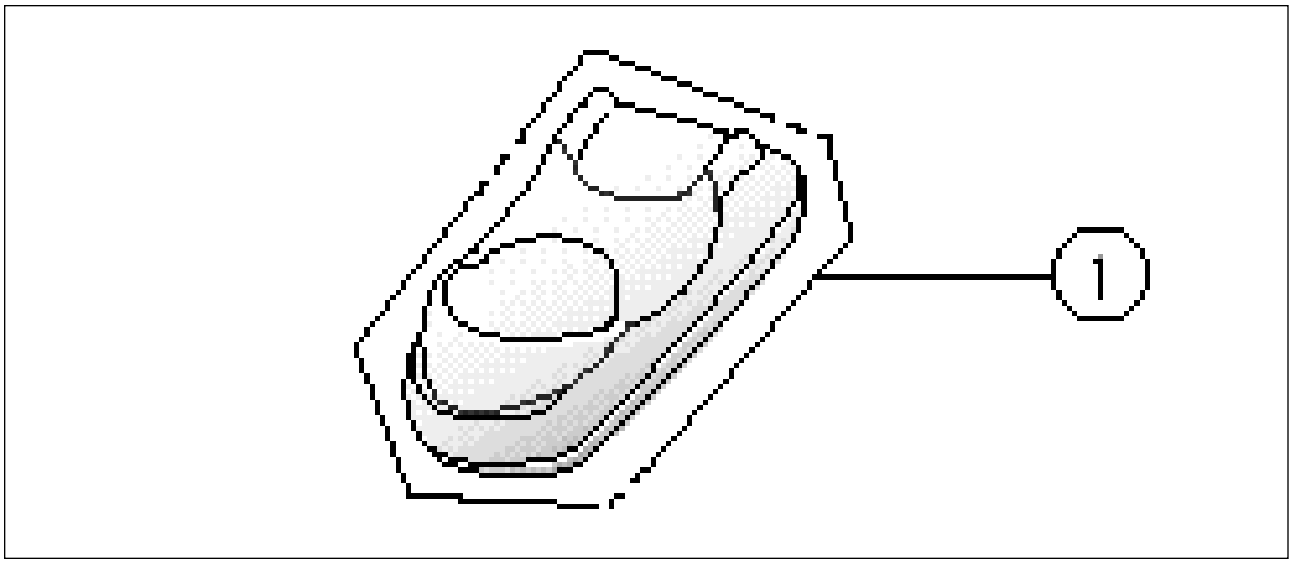
3. Base Exploded View



4. Base Part List

Location No.	Description	SEC Code	Remark
1	HOUSING ASS'Y	GG75-11147A	
2	PBA	GG92-01218A	
3	BASE PLATE ASS'Y	GG75-11148A	
4	M3,L10 SCREW	6003-000159	

5. Charger Exploded View



6. Charger Part List

Location No.	Description	SEC Code	Remark
1	CHARGER ASS'Y	GG97-01721A	

9. Electrical Parts List

1. Base Parts List

Location No	Description	SEC Code	Remark
J10	CBF HARNESS	GG39-40548A	
SHEILD	NPR-SHIELD CAN : SP-R5100	GG71-10573A	
SUPPORT	PMO-LED SUPPORT : SP-R5100	GG72-42563A	
SMD UK	PRA AUTO SMD-B/PCB : SP-R5100	GG94-02353A	
PCB	PCB SP-R5100 B/PCB : SP-R5100	GG41-11072A	
AUTO UK	PRA AUTO-B/L : SP-R5100	GG94-02354A	
AXCIAL UK	PRA AUTO AXL-B/L : SP-R5100	GG94-02351A	
ZD3	DIODE-ZENER : 1N4728A, 3.3 V	0403-000131	
ZD1,ZD2,ZD4	DIODE-ZENER : 1N4732A, 4.7 V	0403-000524	
R5	R-METAL OXIDE : 68 ohm, 5 %, 1 W	2003-000358	
JUMP	WIRE-NO SHEATH CU : SDACW	3812-000101	
MIS2	SURGE ABSORBER : 300 V, 15 %	4715-000127	
RADIAL UK	RPA AUTO RAL-B/L : SP-R5100	GG94-02352A	
V1	VARISTOR : 120 V, 2500 A	1405-000105	
C51	C-AL : 10 uF, 20 %, 16 V	2401-000050	
C3,C4	C-AL : 100 uF, 20 %, 25 V	2401-000308	
C32	C-AL : 220 uF, 20 %, 16 V	2401-000802	
RF1	ELA UNIT-B/L : SP-R5100	GG96-01089A	
BD1	DIODE-BRIDGE : S1ZB60, 600 V	0402-000318	
D2	DIODE-ARRAY : DAN202K, 80 V	0407-000123	
Q13,Q14,Q15	TR-SMALL SIGNAL : -, NPN	0501-000338	
Q3,Q5,QQ12	TR-SMALL SIGNAL : MMBT2222A	0501-000457	
Q10	TR-SMALL SIGNAL : MMBTA92	0501-000481	
U4	PHOTO -COUPLER : TR, 300~600 %	0604-000138	
U11	IC-EEPROM : 24LC04B, 4 k x 8 BIT	1103-001096	
U3	IC-VOLTAGE REGULATOR	1203-001390	
U422	IC-TRANSMITTER : TEA1118AT	1205-001166	
U10	IC-DEC : PCD5092H / C26 / F5	1205-001471	
R8,R14,R24,R100	R-CHIP : 0 ohm, 5 %, 1/8 W	2007-000033	
R36,R37,C9,C90	R-CHIP : 0 ohm, 5 %, 1/16 W	2007-000070	
R98	R-CHIP : 220 ohm, 5 %, 1/16 W	2007-000075	
R89	R-CHIP : 330 ohm, 5 %, 1/16 W	2007-000076	
R56	R-CHIP : 470 ohm, 5 %, 1/16 W	2007-000077	
R99	R-CHIP : 1 kohm, 5 %, 1/16 W	2007-000078	
R65	R-CHIP : 2.7 kohm, 5 %, 1/16 W	2007-000081	
R19,R41,R77,R78	R-CHIP : 4.7 kohm, 5 %, 1/16 W	2007-000084	
R87,R88,R91,R92	R-CHIP : 4.7 kohm, 5 %, 1/16 W	2007-000084	
R22,R25,R38,R40	R-CHIP : 10 kohm, 5 %, 1/16 W	2007-000090	
R54,R82,R85	R-CHIP : 10 kohm, 5 %, 1/16 W	2007-000090	
R90	R-CHIP : 30 kohm, 5 %, 1/16 W	2007-000096	
R34,R67,R84,R93	R-CHIP : 47 kohm, 5 %, 1/16 W	2007-000097	
R86,R102	R-CHIP : 47 kohm, 5 %, 1/16 W	2007-000097	
R48	R-CHIP : 56 kohm, 5 %, 1/16 W	2007-000098	
R57,R69,R79	R-CHIP : 120 kohm, 5 %, 1/16 W	2007-000103	

Location No	Description	SEC Code	Remark
R68,R70	R-CHIP : 3.9 kohm, 5 %, 1/16 W	2007-000125	
R39	R-CHIP : 330 kohm, 5 %, 1/16 W	2007-000133	
R83	R-CHIP : 33 kohm, 5 %, 1/16 W	2007-000134	
R60	R-CHIP : 1.5 kohm, 1 %, 1/16 W	2007-000239	
R16	R-CHIP : 100 ohm, 5 %, 1/8 W	2007-000293	
R76	R-CHIP : 10 ohm, 5 %, 1/16 W	2007-000309	
R61	R-CHIP : 180 ohm, 5 %, 1/16 W	2007-000450	
R53	R-CHIP : 2.4 kohm, 5 %, 1/16 W	2007-000512	
R33	R-CHIP : 33 kohm, 5 %, 1/8 W	2007-000777	
R73	R-CHIP : 39 ohm, 5 %, 1/16 W	2007-000839	
R95	R-CHIP : 39 ohm, 5 %, 1/8 W	2007-000840	
R94	R-CHIP : 47 ohm, 5 %, 1/8 W	2007-000950	
R49	R-CHIP : 510 ohm, 5 %, 1/16 W	2007-001002	
R63	R-CHIP : 750 ohm, 5 %, 1/16 W	2007-001157	
C40,U423	C-CERAMIC, DISC : 470 pF, 20 %	2201-000560	
C6,C7,C11,C14	C-CERAMIC, CHIP : 100 nF	2203-000189	
C27,C34,C36,C41	C-CERAMIC, CHIP : 100 nF	2203-000189	
C63,C68,C73,C74,C77	C-CERAMIC, CHIP : 100 nF	2203-000189	
C44,C46	C-CERAMIC, CHIP : 100 nF	2203-000189	
C48,C49,C58	C-CERAMIC, CHIP : 100 nF	2203-000189	
C31,C65	C-CERAMIC, CHIP : 100 pF	2203-000236	
C15,C76,C79	C-CERAMIC, CHIP : 10 nF	2203-000257	
C5,C88	C-CERAMIC, CHIP : 10 pF	2203-000280	
C47,C78	C-CERAMIC, CHIP : 15 nF	2203-000372	
C39	C-CERAMIC, CHIP : 1 uF	2203-000476	
C52,C62,C89	C-CERAMIC, CHIP : 2.2 nF	2203-000491	
C92	C-CERAMIC, CHIP : 22 pF	2203-000624	
C83,C84	C-CERAMIC, CHIP : 33 nF	2203-000799	
C22	C-CERAMIC, CHIP : 4.7 nF	2203-000888	
C25,C26,C28,C35,C96	C-CERAMIC, CHIP : 6.8 pF	2203-001109	
C42,C50,C59,C66,C71	C-CERAMIC, CHIP : 6.8 pF	2203-001109	
C72,C75,C79	C-CERAMIC, CHIP : 6.8 pF	2203-001109	
C37,C43,C51	C-CERAMIC, CHIP : 220 nF	2203-001402	
C33	C-CERAMIC, CHIP : 47 nF	2203-001431	
C38	C-CERAMIC, CHIP : 180 nF	2203-005374	
C93,C94	C-AL, SMD : 100 uF, 20 %, 16 V	2402-001042	
C95	C-TA, CHIP : 100 uF, 20 %, 16 V	2404-000278	
C29	C-TA, CHIP : 6.8 uF, 20 %, 16 V	2404-000318	
C86,C87	C-TA, CHIP : 33 uF, 20 %, 6.3 V	2404-001032	
X1	CRYSTAL-SMD : 13.824 MHz	2801-003596	
L3	COIL-RF : SF2600, 4 MH, 7.50 ohm	JF27-30053A	
Q9	TR-POWER : KSA1156-0, PNP	0502-000235	
LED1	LED : ROUND, SUPER GRN, 5 mm	0601-001243	
U2	IC-POSI. FIXED REG. : 7805	1203-000273	
SW1	SWITCH-TACT : 12 V, 50 mA	3404-000191	
REL1	RELAY-MINIATURE : 5 V, 500 mW	3501-000231	
CN1	CONNECTOR-HEADER : BOX, 2 P	3711-000827	
CN50,CN51	JACK-MODULAR : 6 P / 6 C	3722-000250	
CN30,CN31	JACK-MODULAR : 6 P / 4 C	3722-001263	

2. Remote Parts List

Location No	Description	SEC Code	Remark
LCD	DISPLAY LCD SP-R5100	GG07-20530A	
CBF1	CBF HARNESS-R/BATT : SP-R5100	GG39-41051A	
CBF2(MIC)	CBF HARNESS-R/MIC : SP-R5100	GG39-41052A	
CBF3(MIC)	CBF HARNESS-R/MIC : SP-R5100	GG39-41053A	
CBF4	CBF HARNESS-CHG : SP-R5100	GG39-41054A	
CBF5	CBF HARNESS-CHG : SP-R5100	GG39-41055A	
LCD	PMO-LCD HOLDER : SP-R5100	GG72-42560A	
R/M SMD	PRA AUTO SMD-R/L : SP-R5100	GG94-02355A	
PCB	PCB SP-R5100 R/PCB : SP-R5100	GG41-11071A	
RF1	ELA UNIT-R/L : SP-R5100	GG96-01088A	
D1	DIODE-SCHOTTKY : BAT54AW	0404-001016	
D14	DIODE-ARRAY : BAV70 W, 70 V	0407-001016	
Q20	TR-SMALL SIGNAL : MMBT2907A	0501-000462	
Q6,Q18	TR-SMALL SIGNAL : N, NPN	0501-002046	
Q1	TR-DIGITAL : -, NPN, 200 mW	0504-000127	
Q13	FET-GAAS : BSS138, 50 V, 14 V	0505-001064	
D16	LED : CHIP, YEL, 2 mm, 570 nm	0601-001144	
U13	IC-EEPROM : 24LC04B, 4 k x 8 BIT	1103-001096	
U14	IC-VOLTAGE REGULATOR	1203-001390	
U10	IC-DEC : PCD5091H/C26/F5	1205-001470	
U11	IC-DETECTOR : 5VT30, SOT-23	1209-001048	
L1	R-CHIP : 0 ohm, 5 %, 1/8 W	2007-000033	
R137,C210,L6,L7	R-CHIP : 0 ohm, 5 %, 1/16 W	2007-000070	
R109	R-CHIP : 100 ohm, 5 %, 1/16 W	2007-000074	
R51,R107,R108	R-CHIP : 220 ohm, 5 %, 1/16 W	2007-000075	
R124	R-CHIP : 1 kohm, 5 %, 1/16 W	2007-000078	
R110,R111	R-CHIP : 1 kohm, 5 %, 1/16 W	2007-000078	
R6	R-CHIP : 2 kohm, 5 %, 1/16 W	2007-000080	
R126	R-CHIP : 3.3 kohm, 5 %, 1/16 W	2007-000082	
R31,R82	R-CHIP : 4.7 kohm, 5 %, 1/16 W	2007-000084	
R100,R101,R102	R-CHIP : 10 kohm, 5 %, 1/16 W	2007-000090	
R2,R64,R117,R119	R-CHIP : 10 kohm, 5 %, 1/16 W	2007-000090	
R130	R-CHIP : 12 kohm, 5 %, 1/16 W	2007-000091	
R114,R122,R129	R-CHIP : 47 kohm, 5 %, 1/16 W	2007-000097	

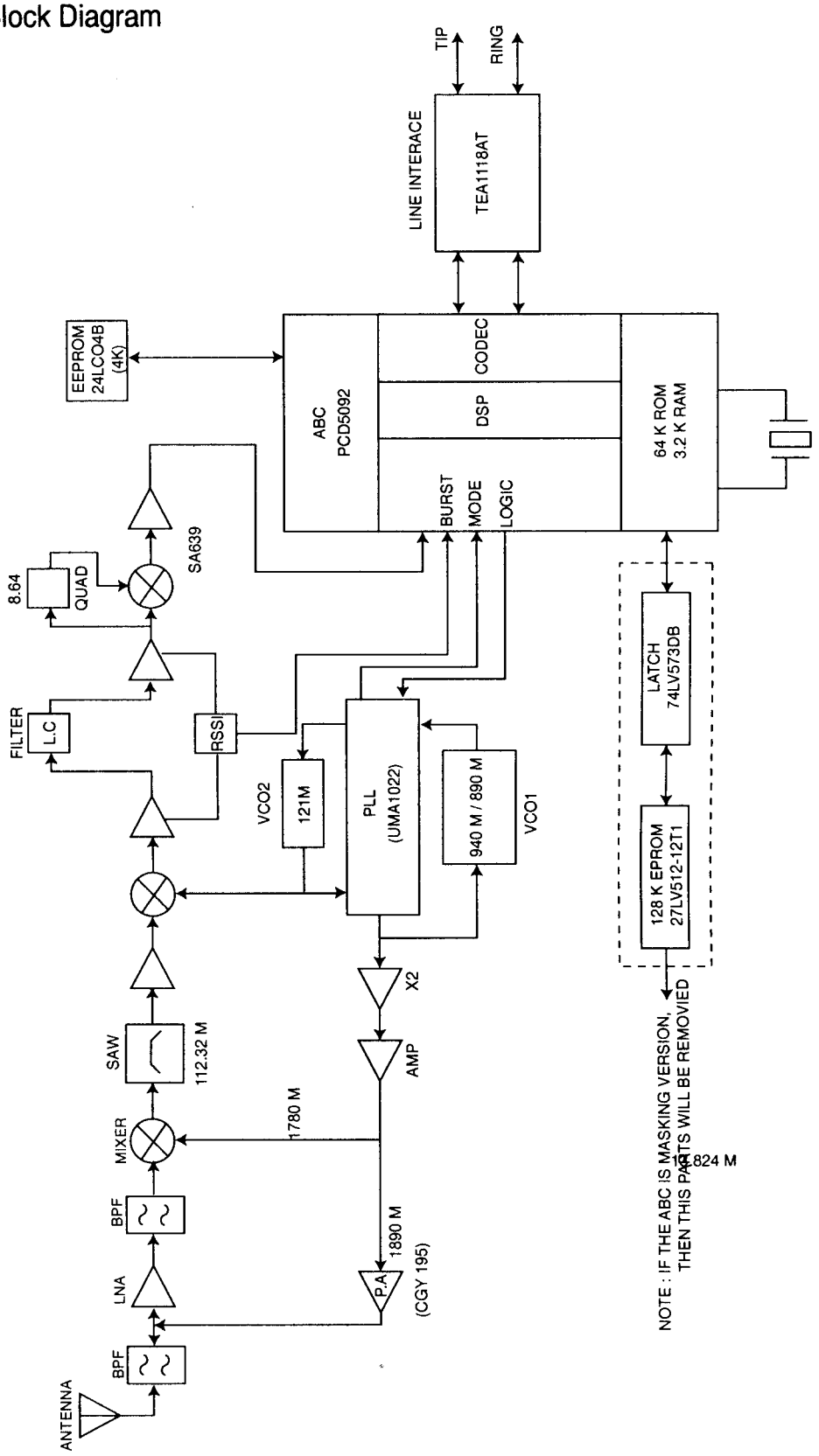
Location No	Description	SEC Code	Remark
RX2	R-CHIP : 100 kohm, 5 %, 1/16 W	2007-000102	
R1,R41,R66,R125,R128	R-CHIP : 100 kohm, 5 %, 1/16 W	2007-000102	
R134	R-CHIP : 470 kohm, 5 %, 1/16 W	2007-000107	
R7	R-CHIP : 1 Mohm, 5 %, 1/16 W	2007-000109	
R94	R-CHIP : 82 kohm, 5 %, 1/16 W	2007-000115	
RX1	R-CHIP : 2.2 kohm, 5 %, 1/16 W	2007-000124	
R42	R-CHIP : 27 kohm, 5 %, 1/16 W	2007-000129	
R121	R-CHIP : 10 ohm, 5 %, 1/16 W	2007-000309	
R116	R-CHIP : 4.7 ohm, 5 %, 1/16 W	2007-000882	
R50	R-CHIP : 510 ohm, 5 %, 1/16 W	2007-001002	
R123	R-CHIP : 8.2 kohm, 5 %, 1/16 W	2007-001179	
C29,C131,C132,C135	C-CERAMIC, CHIP : 100 nF	2203-000189	
C111~C113,C115	C-CERAMIC, CHIP : 100 nF	2203-000189	
C117,C121,C122	C-CERAMIC, CHIP : 100 nF	2203-000189	
C119	C-CERAMIC, CHIP : 100 pF	2203-000236	
C126	C-CERAMIC, CHIP : 10 nF	2203-000257	
C120,C137,C152	C-CERAMIC, CHIP : 10 pF	2203-000280	
C150,C151,C156,C161	C-CERAMIC, CHIP : 1 nF	2203-000440	
C109	C-CERAMIC, CHIP : 1 uF	2203-000476	
C123,C124	C-CERAMIC, CHIP : 2.2 nF	2203-000491	
C128	C-CERAMIC, CHIP : 22 pF	2203-000624	
C101,C162	C-CERAMIC, CHIP : 4.7 nF	2203-000888	
CX2	C-CERAMIC, CHIP : 470 pF	2203-000950	
C138,C139	C-CERAMIC, CHIP : 56 pF	2203-001074	
C140,C153,CX3	C-CERAMIC, CHIP : 6.8 pF	2203-001109	
C49,C118,C154,C155	C-CERAMIC, CHIP : 6.8 pF	2203-001109	
C158,C159,C160	C-CERAMIC, CHIP : 6.8 pF	2203-001109	
C125,C127,CX1,CXX1	C-CERAMIC, CHIP : 6.8 pF	2203-001109	
C4	C-TA, CHIP : 10 uF, 20 %, 6.3 V	2404-000141	
C1,C3	C-TA, CHIP : 33 uF, 20 %, 6.3 V	2404-000226	
C2,C5,C6	C-TA, CHIP : 100 uF, 10 %, 6.3 V	2404-000277	
L3,L4	INDUCTOR-SMD : 1 uH, 10 %	2703-001183	
X1	CRYSTAL-SMD : 13.824 MHz	2801-003596	
B1	BUZZER-MAGNETIC : 81 dB, 1.5 V	3002-000126	
MIC	MIC-CONDENSOR : 1.5 V, 300 uA	3003-001017	
E1	AUDIO-RECEIVER : 150 ohm	3009-001012	
CON1	CONNECTOR-HEADER : BOX, 2 P	3711-000827	

3. Charger Parts List

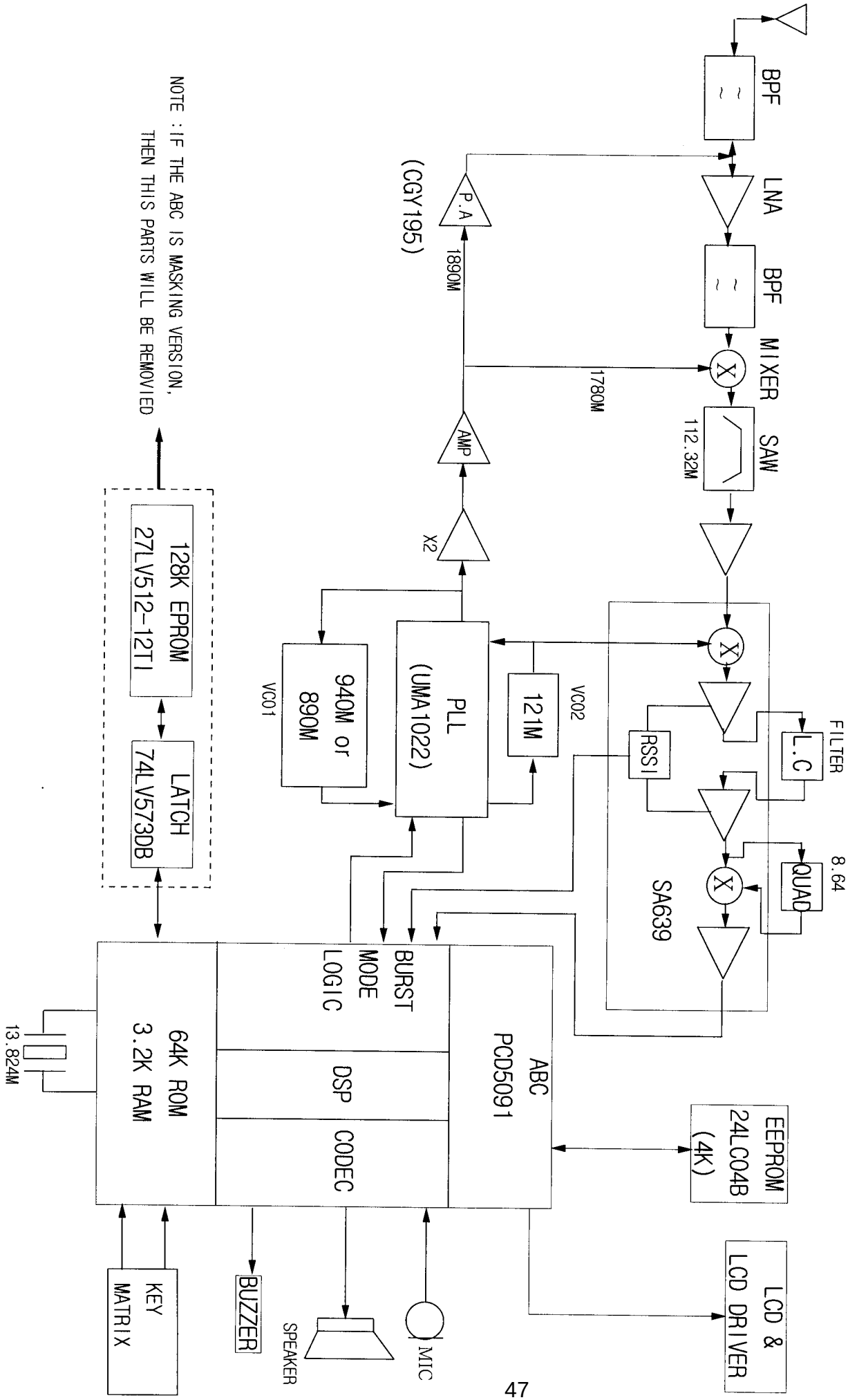
Location No	Description	SEC Code	Remark
HARNESS	CBF HARNESS-:-,-,-, 125 MM	GG39-40548A	
SMD	PRA AUTO SMD-SP-R5060	GG96-02220A	
PCB	PCB-CHARGER PCB : SP-R5100	GG41-11073A	
AXL	PRA AUTO AXL-5100 : SP-R5100	GG94-02356A	
R1	R-METAL OXIDE : 68 ohm, 5 %, 1 W	2003-000358	
CN1	CONNECTOR-HEADER : BOX, 2 P	3711-000827	
M1	JACK-MODULAR: 6 P/4 C	3722-001263	

11. Block Diagram

1. Base Block Diagram

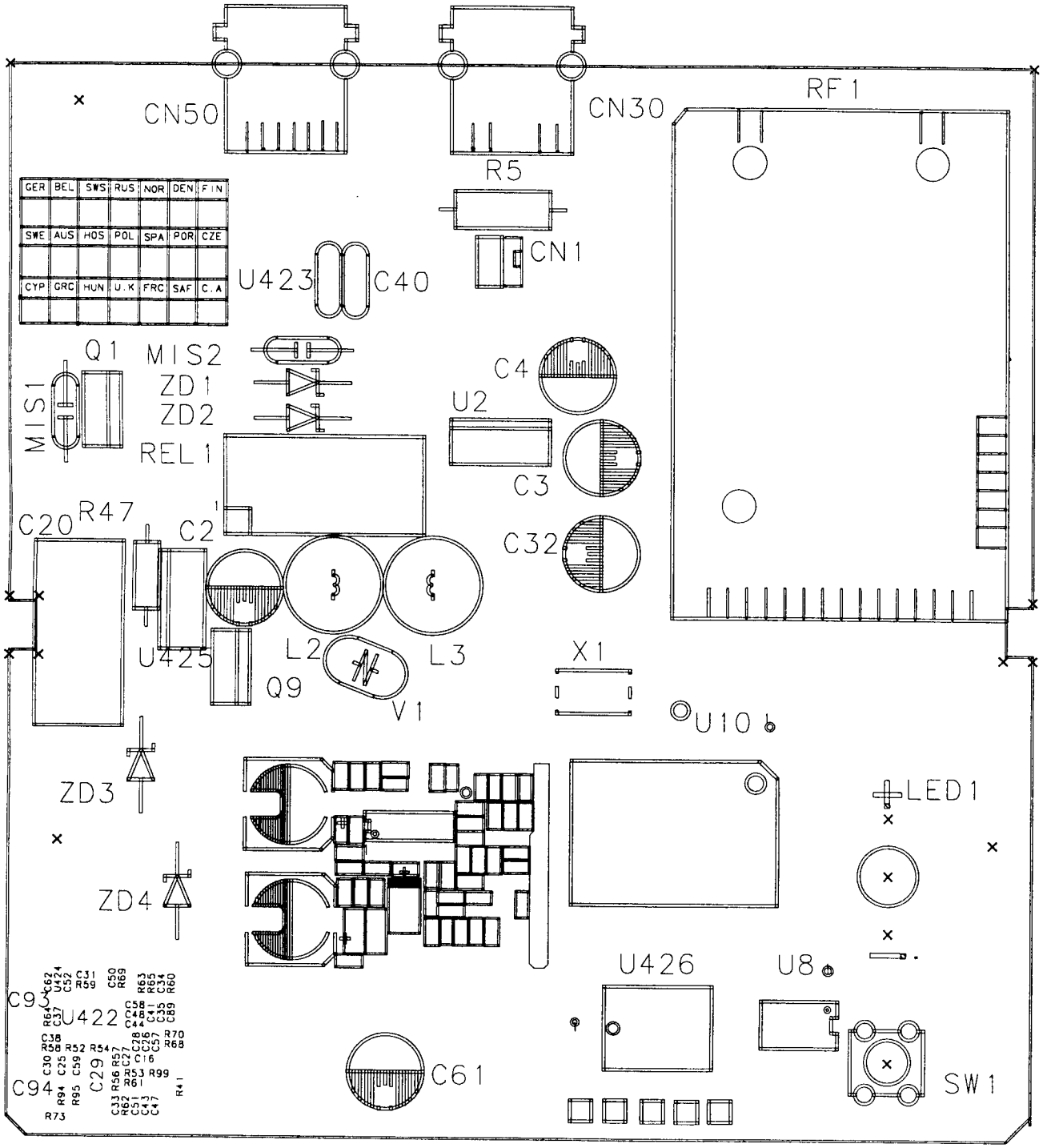


2. THE SP-R5150 BLOCK DIAGRAM OF P.P.

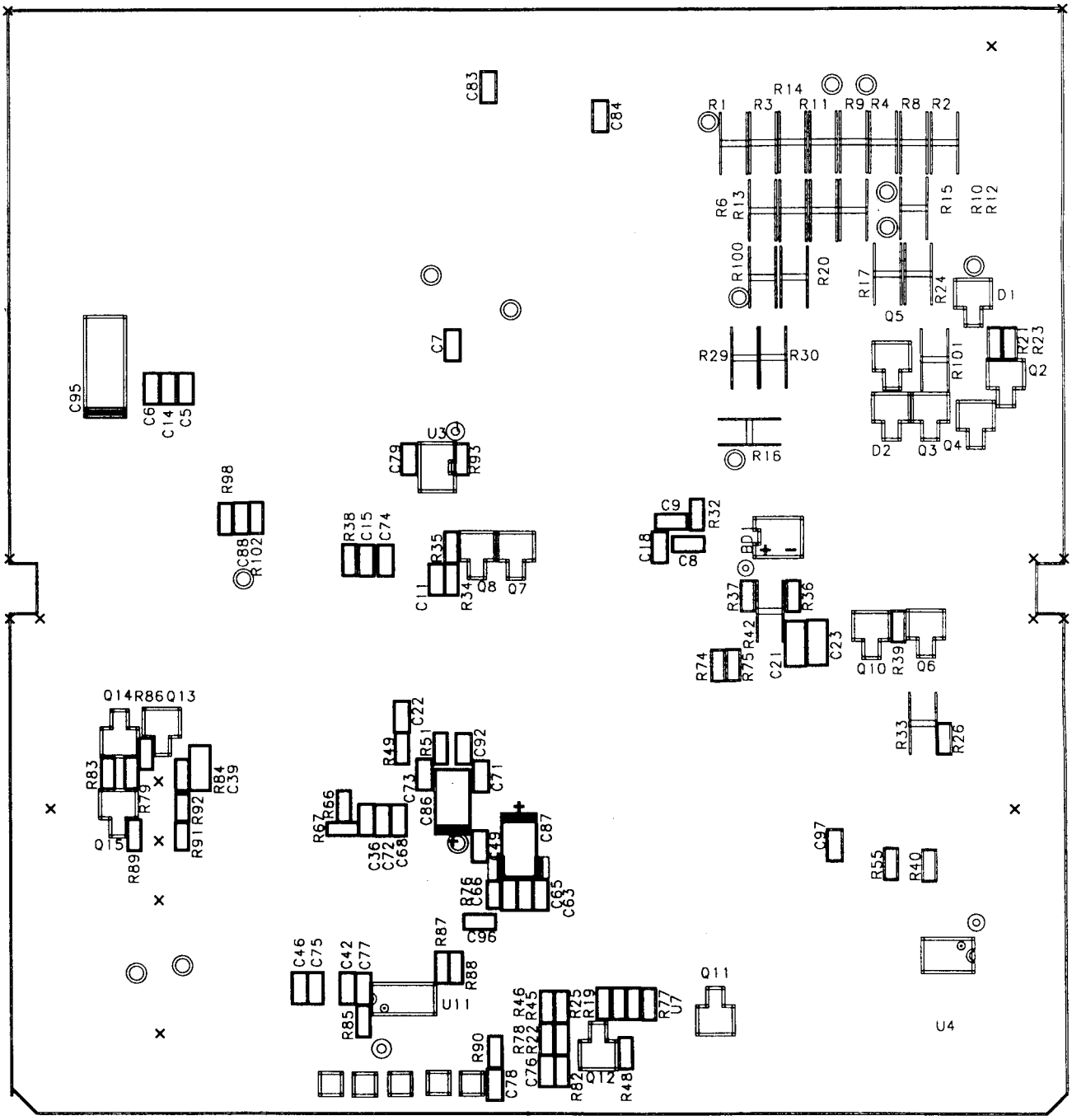


8. PCB Views

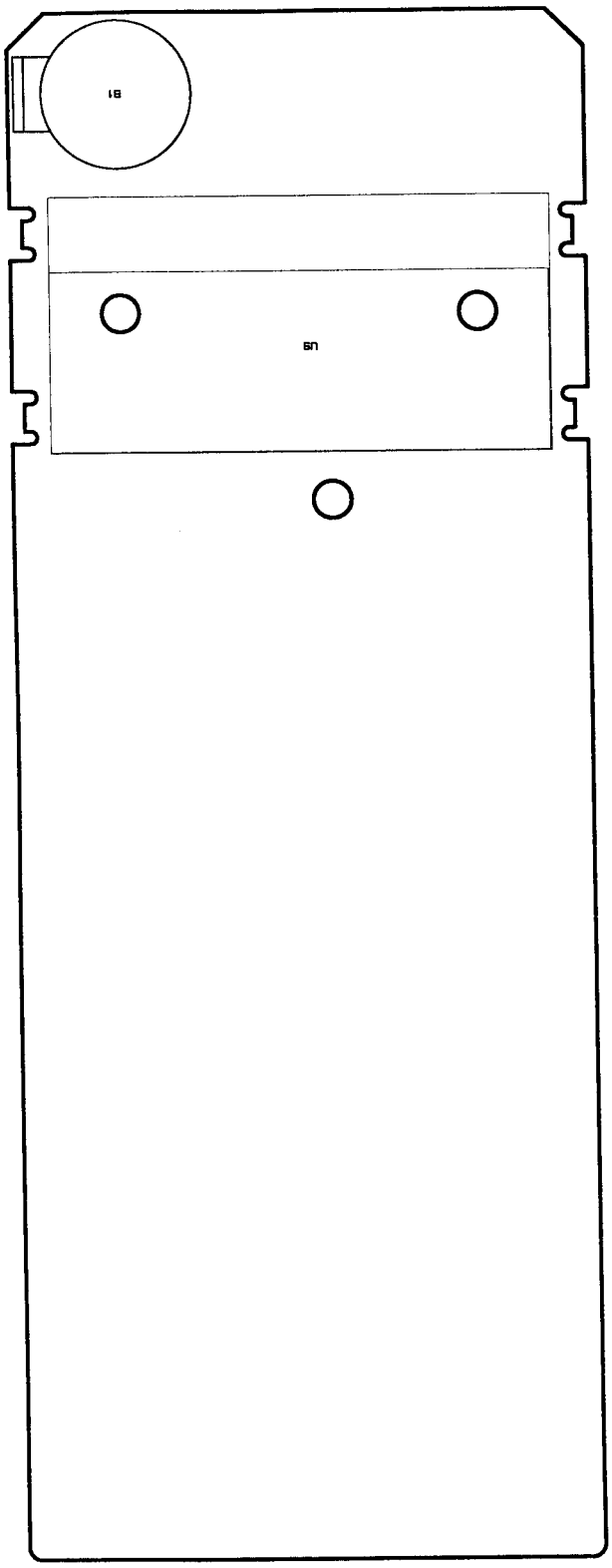
1. Base Top View



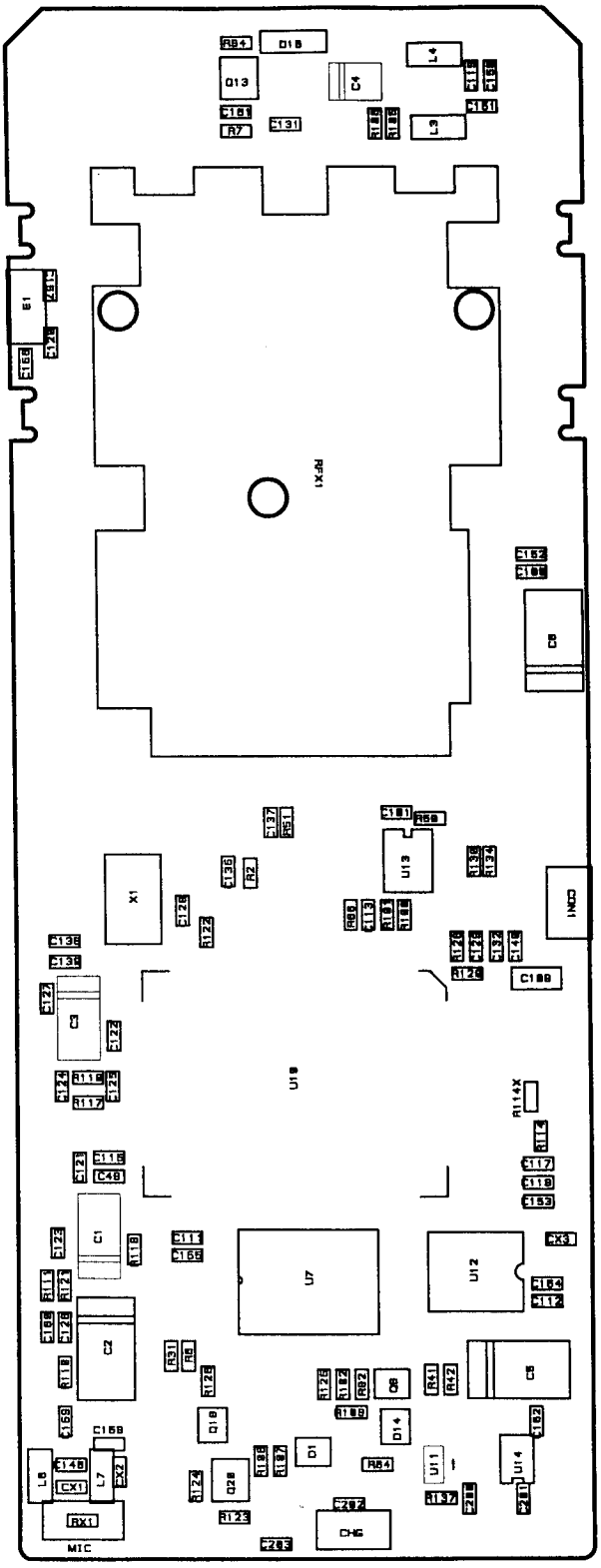
2. Base Bottom View



3. Remote Top View



4. Remote Bottom View



12. Schematic Description and Diagram

1. CIRCUIT DESCRIPTIONS OF HANDSET RF

1-1 INTRODUCTION

The system uses the T.D.D.method that the system receives RX signals and transmits TX signals through only one antenna and carrier frequency. The system also uses the TDMA method using one slot among24slots. The frequency range of TX and RX is from 1881.792MHz to 1897.344MHz.
The equipment uses DECT RF module.

1-2 DESCRIPTION

1) ANTENNA
The system uses the antenna of •Ñ4 herical type to communicate with the microwave signal.
2) RF module
The operating voltage of this module is 3.6Vdc normally and supplied by BATT directly.
The clock of module uses 13.824MHz. The outgoing siginals of module are SLICE OUT, DEMODE OUT,VCC REFand RSSI siginal.

This RF module°Ø pin assignments are as follows.

A) Vcc	:	9 and 10 are TX POWER SUPPLY. 28 is the supply voltage for other circuits within RF Module.
B) GND	:	1,3,5,6,7,15,30,31 and 32.
C) TX PA RAMP	:	It controls transmit power AMP.(pin number : 8) In case of ¼°±state, it turns on the TX power AMP. In case of ¿°±state, it turns off the TX power AMP. Its pin number is 5
D) SLICE OUT		The reference voltage of data comparator (pin number : 16). In case of ¼°±state, it holds reference voltage. In case of ¿°±state, it is S-field tracking mode.
E) DEMODE OUT	:	This pin presents demodulated signal (pin number : 18).
F) SLICE CTRL	:	It controls the tracking or holding of data slice (pin number : 17). In case of ¼°±state, it keeps data slice. In case of ¿°±state, it is tracking mode.
G) PLL CTRL	:	This pin controls PLL power (pin number : 20). This pin is active° ¿°±state.
H) PLL ENABLE	:	This pin is synthesizer enable input(pin number : 21).
I) BATT. SAVE	:	This controls the main power of RF module (pin number : 25). In case of ¼°±state, the RF module°Ø power is supplied.
J) PLL DATA	:	This is synthesizer data input pin binary (pin number : 22).
K) TX ENABLE	:	This controls the power of transimitting circuit(pin number : 13). In case of ¿°± the power is to supply TX circuit.
L) PLL CLOCK	:	This is synthesizer clock input for serial registers(pin number : 23).
M) RX ENABLE	:	This controls RX path and antenna switch(pin number : 14). In case of ¿°± the RX path turn on.
N) VCO BND S/W	:	This is the input of VCO band switch (pin number : 27). In case of ¼°±it selects transmitting ferquency. In case of ¿°±it selects receiving frequency.
O) VCC REF	:	This is 2.9Vdc reference output for BMC interface (pin number : 29).
P) TX DATA	:	This is transmit data input(pin number : 26). When it is not active this pin goes to high impedance state
Q) SYS CLOCK	:	This is RF module clock input pin(pin number : 24) and its frequency is 13.824MHz.
R) RSSI	:	This is RSSI output pin(pin number : 19) and its voltage level is related to signal level.

2. CIRCUIT DESCRIPTIONS OF HANDSET LOGIC

2-1 INTRODUCTION

The HANDSET LOGIC B°Ø controls its RF part and TX & RX AUDIO signals, and controls charging current and performs lots of user oriented functions by sensing the keys, and controls LCD displays, MIC and buzzer.

2-2 KEY PAD

The KEY PAD consists of 3 ° 6ømatrix key. The 6 rows are connected with 6 ports of CPU and the CPU usually controls these ports to keep its level high. Respectively, the3 columns are connected with 3 ports of the CPU and the CPU usually controls these ports to keep its level low. If a certain key is pressed, the column and the row are short- circuited and the column°ø voltage become high.
The CPU senses the change of the voltage condition, then changes all row°ø level low and generates pulse(strobe) signal to 6 rows in order. At this moment, there is no signal on the unpressed column, but the strobe signal is detected on the pressed column. That indicates the key is pressed.

2-3 EEPROM

The EEPROM used in the HANDSET is PCF8594C which is made by PHILIPS.
The EEPROM stores the initial data, it°ø ID number, telephone numbers for the memory dial function and country adaptation value including volume data.

2-4 RSSI DETECTOR

The RF module outputs DC voltage in proportion to the RF input level through the internal RSSI circuit and the MPU checks the point of the DC voltage level. This pin is used for channel and slot scanning.

2-5 POWER SUPPLY CIRCUIT

The power used in HANDSET is a rechargeable BATTERY(3.6VDC, 530mAH) which is combined with 3 batteries of 1.2V Ni-MH in serial.

2-6 TX & RX AUDIO CIRCUITS

The TX audio signal from the CONDENSER MIC goes to the MPU whose reference level is4mVrms.
The MPU converts this audio signal to digital using internal DSP. These digital voice signals are transmitted to BASE SET by HAND SET RF.
The RX digital signal from the BASE RF inputs the HAND SET RF module and then that digital siginal is converted into analog audio by the MPU. These audio signals go to the ear piece directly.

2-7 CURRENT CHARGE CIRCUIT

This equipment°ø charging method uses normal and trickle charge. Normal charge is0.1c for 15 hours after full discharge and then this equipment goes to trickle charge mode continuously.
Normal or trickle mode is selected by the MPU pin xx. In case of normal charge mode, the MPU goes to ° HIGH° state and turns on Q18. The Q20 is controlled by Q18.

3. CIRCUIT DESCRIPTIONS OF BASESET RF

3-1 INTRODUCTION

The circuit of BASESET RF is similar to that of HANDSET RF. The difference between two circuits is only antenna method. In DECT, the antenna of BASE has 2 kinds. One is vertical ANT.and another is horizontal ANT.

3-2 DESCRIPTION

1) ANTENNA
The system uses the antenna whose length is •Ñ4 to communicate with the microwave signal. Because of high frequency characteristic DECT has diversity antenna. One is vertical ANT. and another is horizontal ANT.

2) RF module
The operating voltage of this module is 5Vdc and supplied by power adaptor.
The clock of module uses 13.824MHz. The out siginals of module are SLICE OUT, DEMODE OUT,VCC REFand RSSI siginal.
This RF module°Ø pin assignments are as follows.

A) Vcc : 9 and 10 are TX POWER SUPPLY.
28 is the supply voltage for other circuits within RF Module.

B) GND : 1,3,5,6,7,15,30,31 and 32.

C) TX PA RAMP : It controls transmit power AMP.(pin number : 8)
In case of ´H°± state, it turns on the TX power AMP.
In case of ´L°± state, it turns off the TX power AMP.
Its pin number is 8.

D) SLICE OUT : The reference voltage of data comparator (pin number : 16).
In case of ´H°± state, it keeps reference voltage.
In case of ´L°± state, it is S-field tracking mode.

E) DEMODE OUT : This pin outputs demodulated signal (pin number : 18).

F) SLICE CTRL : It controls the tracking or hold of data slice (pin number : 17).
In case of ´H°± state, it keeps data slice.
In case of ´L°± state, it is tracking mode.

G) PLL CTRL : This pin controls PLL power (pin number : 20). This pin is active° ´L°± state.

H) PLL ENABLE : This pin is synthesizer enable input(pin number : 21).

I) BATT. SAVE : This controls the main power of RF module (pin number : 25).
This pin is pulled up by resistor.

J) PLL DATA : This is synthesizer data input pin binary (pin number : 22).

K) TX ENABLE : This controls the power of transimitting circuit(pin number : 13).
In case of ´L°± the TX circuit power is supplied.

L) PLL CLOCK : This is synthesizer clock input for serial registors(pin number : 23).

M) RX ENABLE : This controls RX path and antenna switch.(pin number : 14).
In case of ´L°± the RX path turns on.

N) VCO BND S/W : This is the input of VCO band switch (pin number : 27).
In case of ´H°± it selects transmitting frequency.
In case of ´L°± it selects receiving frequency.

O) VCC REF : This is 2.9Vdc reference output for BMC interface (pin number : 29).

P) TX DATA : This is TX DATA input(pin number : 26). When it is not active this pin goes to high impedance state.

Q) SYS CLOCK : This is RF module clock input pin(pin number : 24) and its frequency is 13.824MHz.

R) RSSI : This is RSSI output pin(pin number : 19) and its voltage level is related to signal level.

4. CIRCUIT DESCRIPTIONS OF BASESET LOGIC

4-1 INTRODUCTION

The BASE LOGIC B°Ø controls the RF PART, the TX/RX AUDIO process, the telephone line interface and the charging circuit.

4-2 DESCRIPTION

a) TELEPHONE LINE INTERFACE

The telephone line interface separates DC and AC components on the telephone line.
The DC components are used for the SPEECH IC OPERATION and the AC COMPONENTS which mean an AUDIO signal passes to the AUDIO PROCESS CIRCUIT that the two TEL-LINES are connected to the HOOK RELAY.
This HOOK RELAY is operated by the MPU and a switching TR.
The audio signal flows into the BRIDGE DIODE which confirms receiving the constant polarity even though the DC polarity of TEL-LINE is reversed. This line flows into the switching circuit normally and the switching TRs(Q503, Q504, and Q505) are switched to make pulses and Q506 is used for matching the DC impedance during pulse dialing. The tel-line passes to the SPEECH IC(TEA1118AT) which separate the DC and the AC components.
The IC passes the AC component(which means the audio signal) to audio process circuit and carries over the TX audio signal passed from audio process circuit. The DTMF signal which is generated by MPU itself send to SPEECH IC through TX audio path. The ring signal coupled with the C505 goes to the U501(PHOTO COUPLER) and goes to the MPU with the form of the rectangular wave.

b) POWER SUPPLY CIRCUIT

The power supplied from the 9V ADAPTOR is divided into 3 parts.
The one regulated to 5V by the U504(KA7805) is supplied to the RF B°Ø, another regulated to 5V by the U503(KA7805) is supplied to the LOGIC PART and the third 9V is supplied to the charging circuit, Relay and SPK AMP.

c) RING DETECTOR

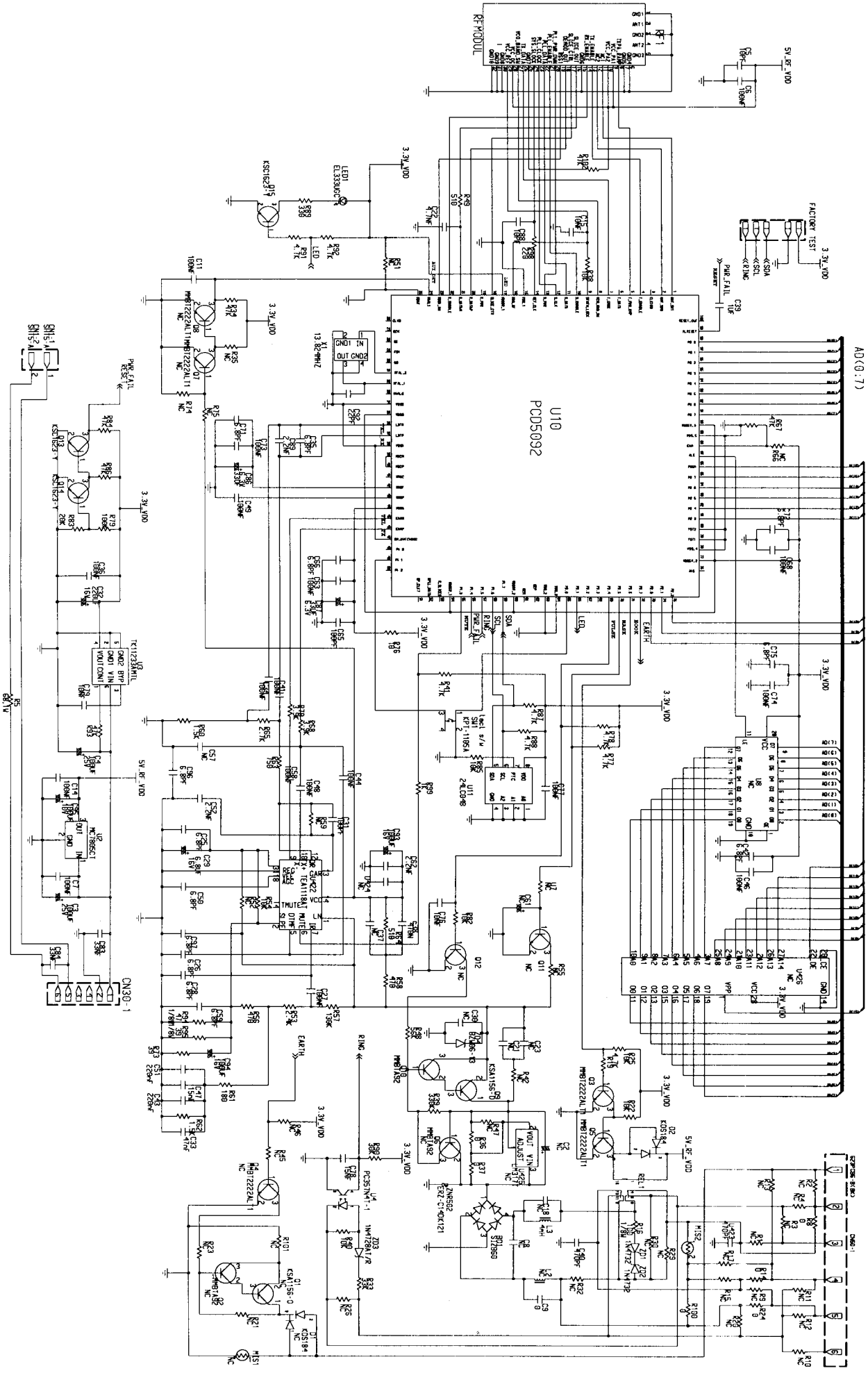
When it receives the ring signal from the telephone line, the ring detector(U4:PHOTO COUPLER) generates the pulse signal according to frequency of ringing signal. At this moment, MPU receives the pulse signal and generates the ringing signal to Buzzer.

d) TX/RX AUDIO CIRCUIT

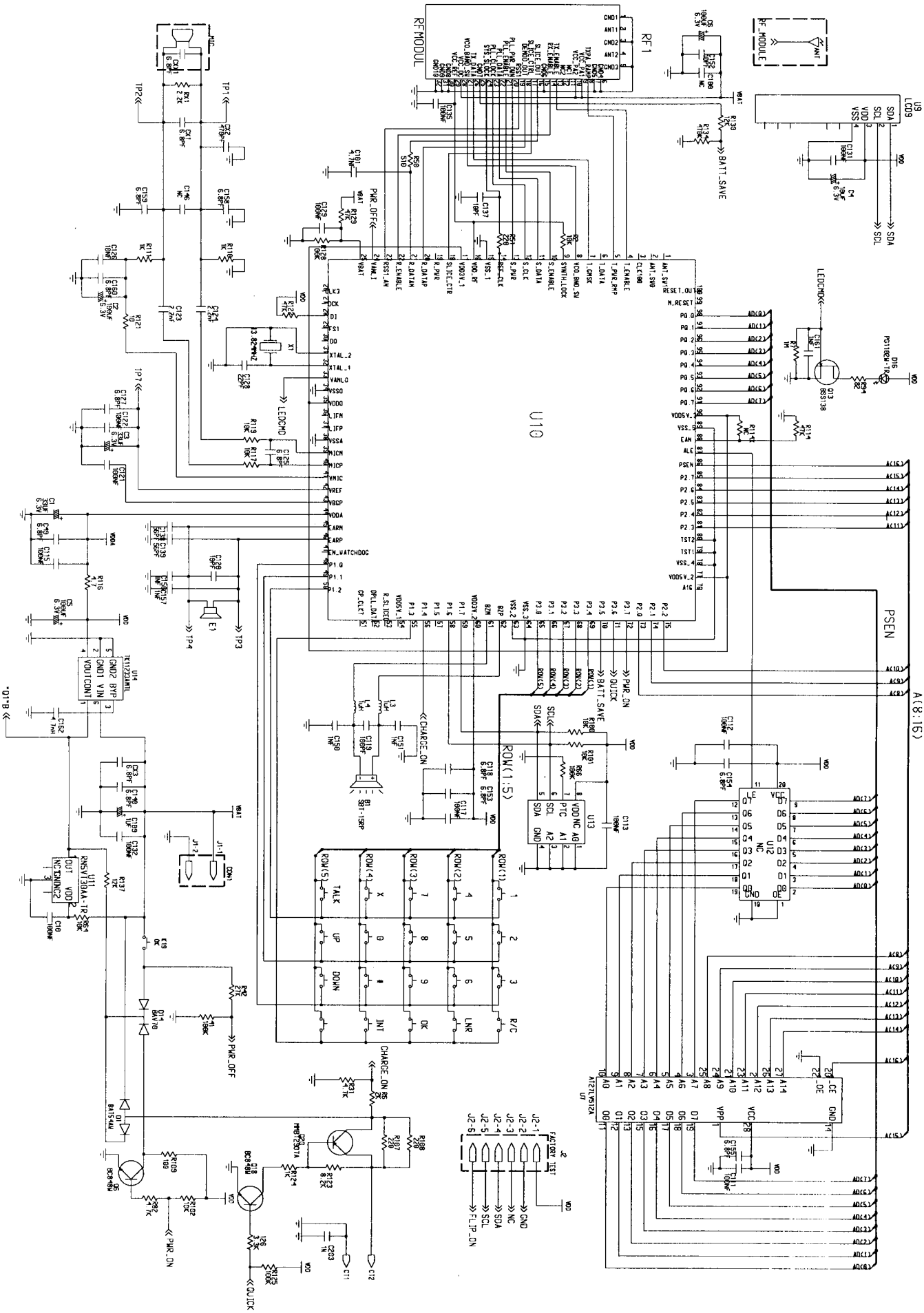
The RX audio signal from the TEL LINE goes to the MPU (pin37)through the SPEECH IC.
The MPU converts this audio signal into digital by internal DSP.
These digital voice signals are transmitted to RMT SET by BASE RF.
The TX digital signal from the RMT RF inputs the BASE RF module and then the digital siginal is converted into analog audio by the MPU.
Those audio signals go to the TEL LINE through the SPEECH IC

e) INDICATION CIRCUIT

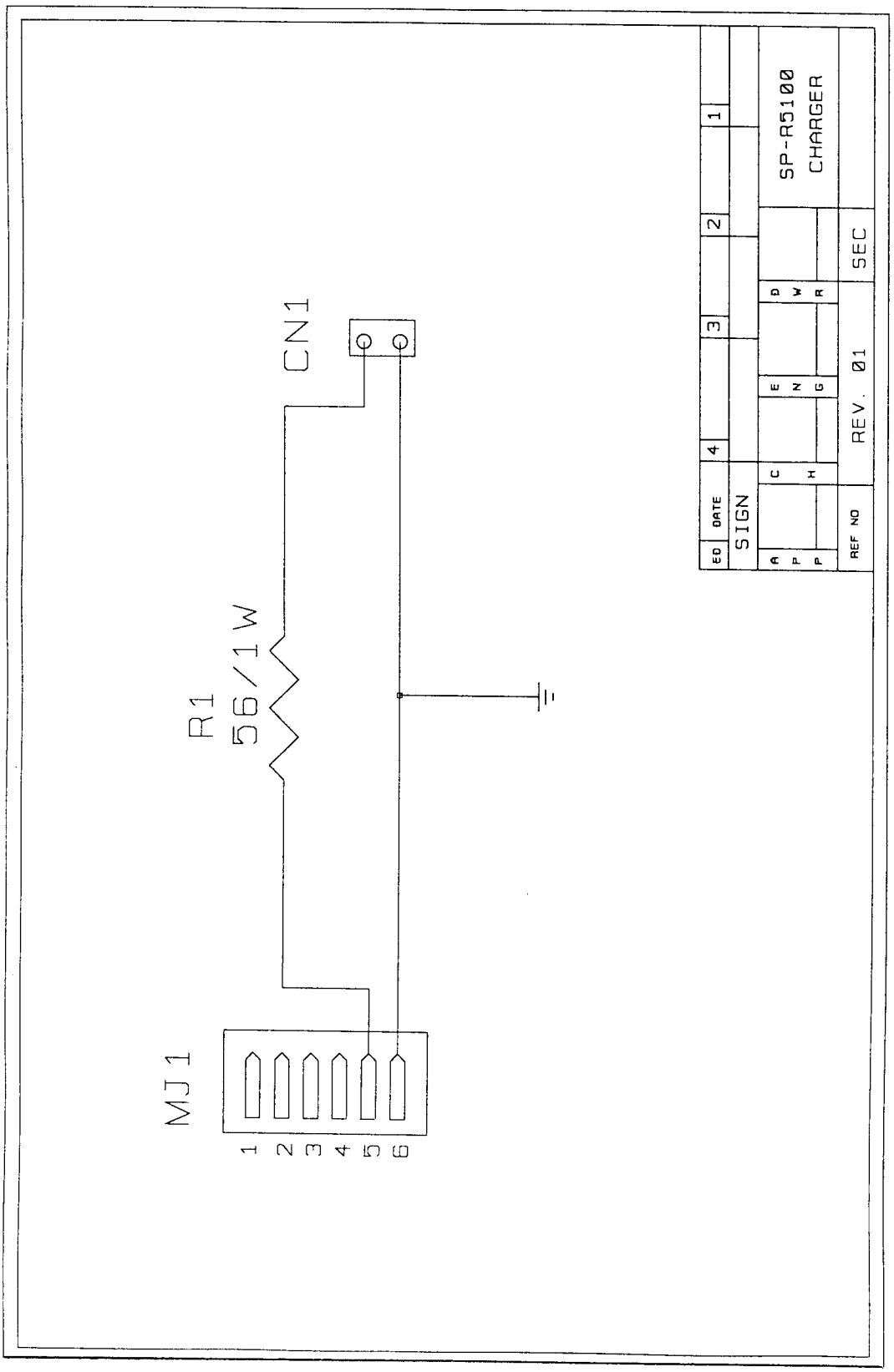
This circuit consists of LEDS to display the baseset operation.


RF MODUL
U10
PCD5092
AD(0:7)
5V_RF_VDD
3.3V_VDD
EARTH
RING
PWR_FAIL
CN30-1

6. REMOTE LOGIC

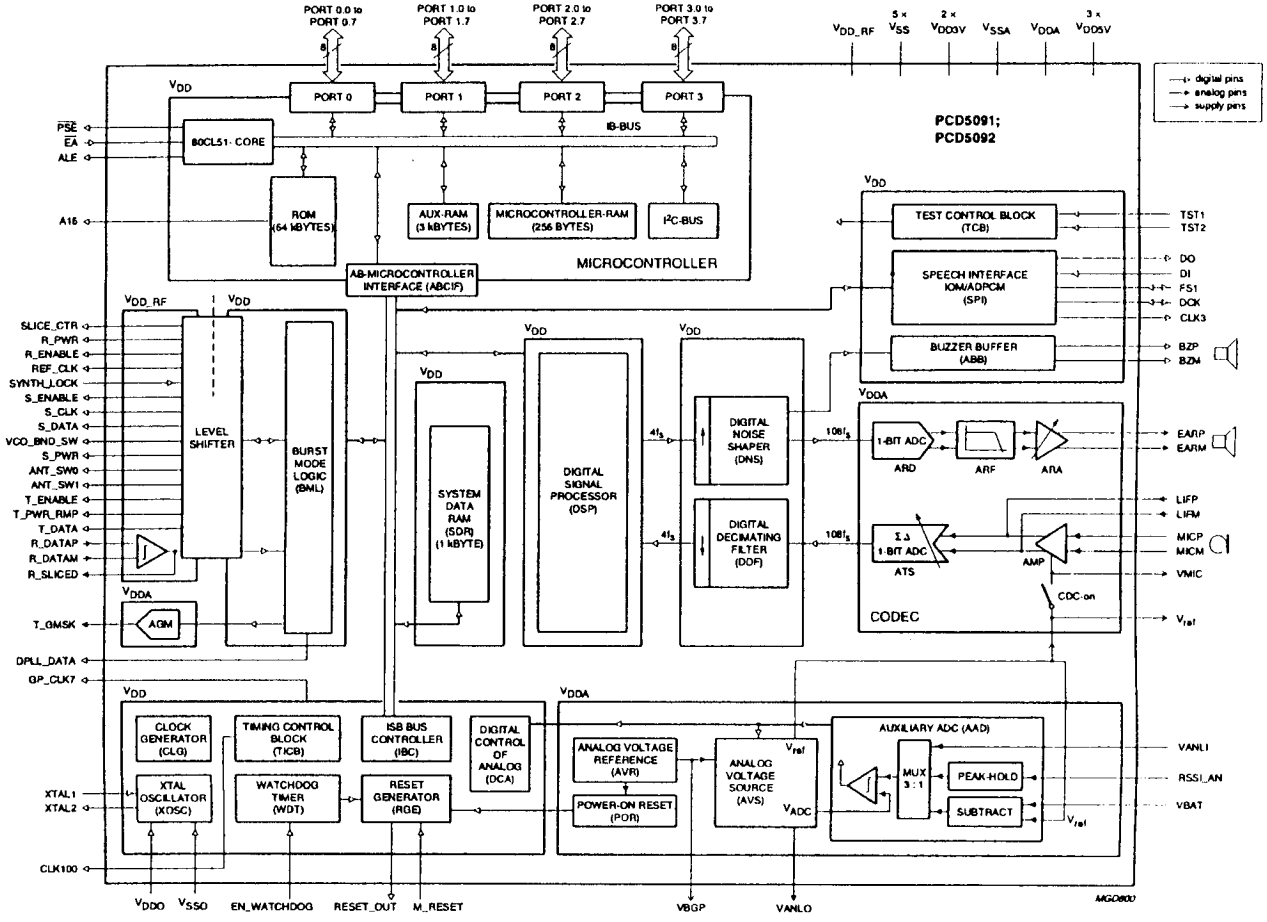


7. CHARGER

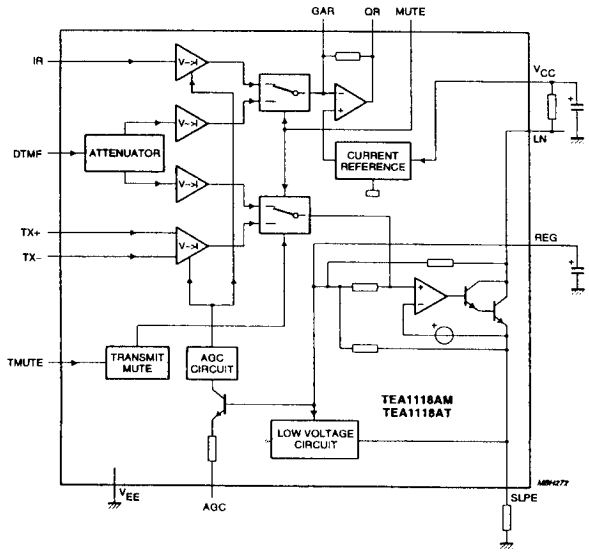

CN1
R1
56/1W
MJ1
1 2 3 4 5 6
SP-R5100
CHARGER
REV. 01
SEC
DATE
SIGN
REF NO

5. Component Pin Array

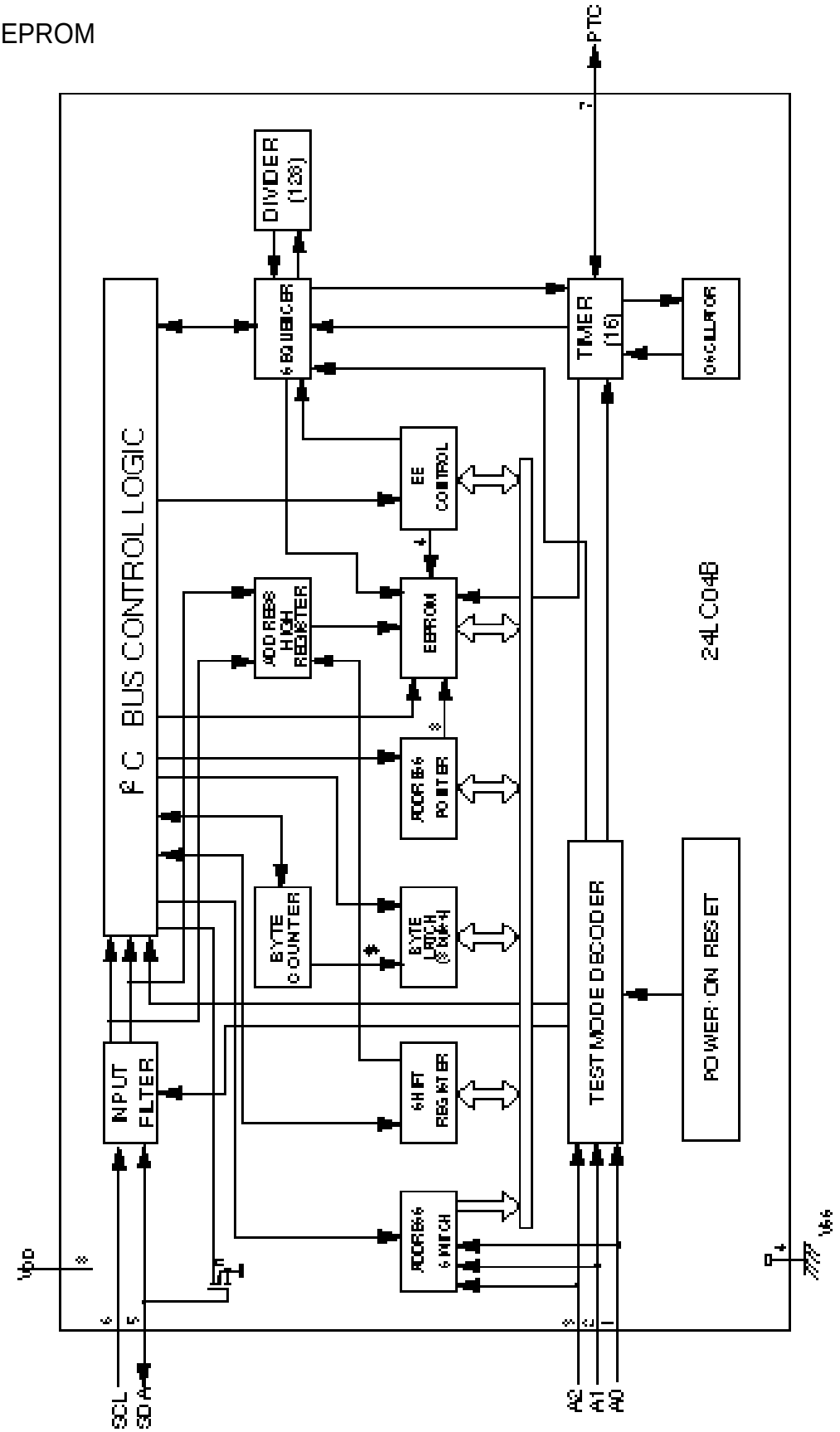
1. ABC Chip



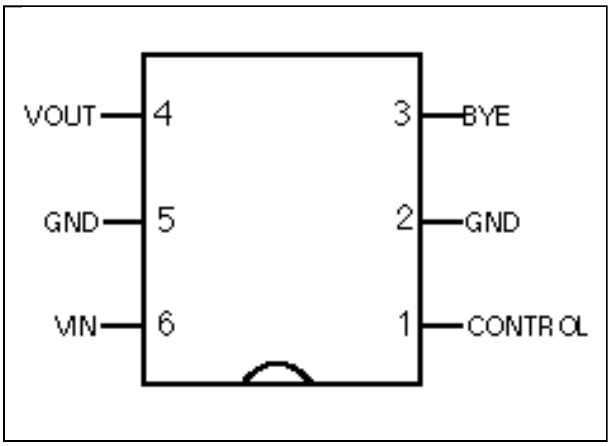
2. Speech IC



3. EEPROM

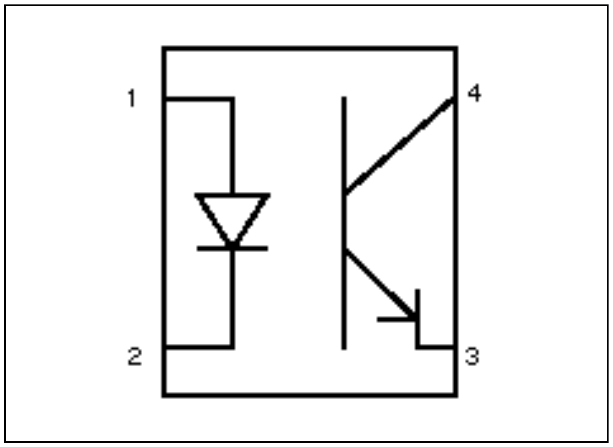

PTC
DIVIDER (128)
COMPARATOR
TIMER (16)
OSCILLATOR
I²C BUS CONTROL LOGIC
EE CONTROL
EEPROM
ADDRESS HIGH REGISTER
ADDRESS POINTER
BYTE COUNTER
BYTE LATCH (8 bit)
SHIFT REGISTER
ADDRESS COMPARATOR
INPUT FILTER
TEST MODE DECODER
POWER-ON RESET
24LC04B
SCL
SDA
A2
A1
A0

4. Votage Regulator



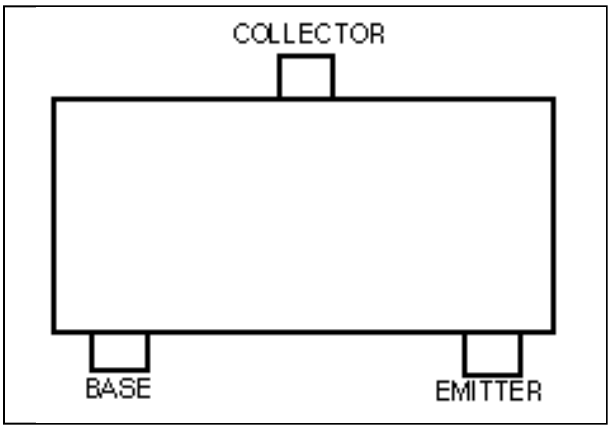
TK11233

5. Photo Coupler

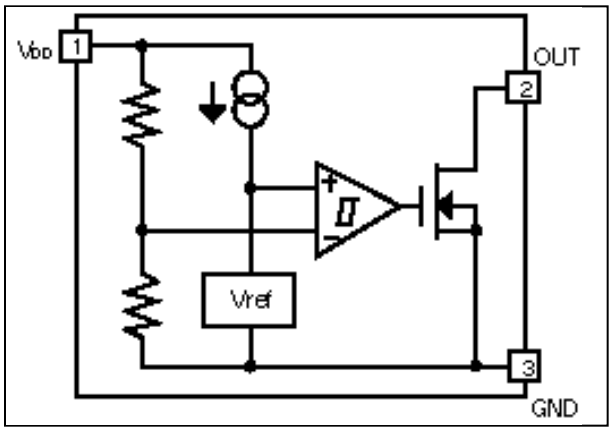


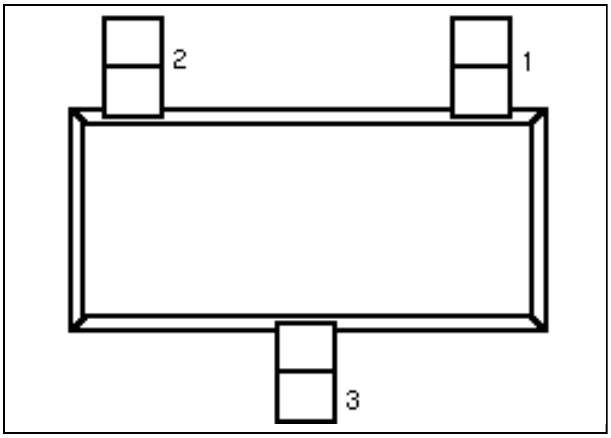
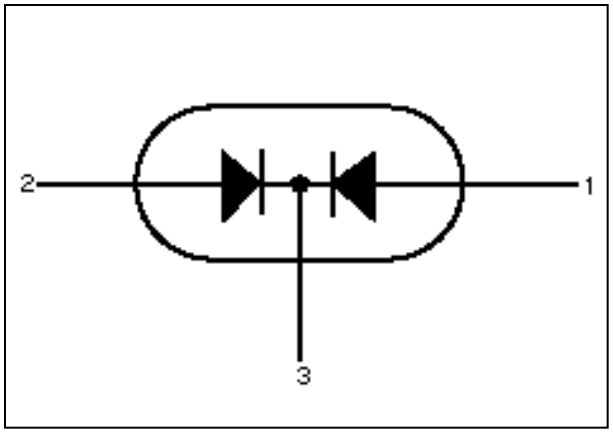
PC357

6. CHIP TR



7. Voltage Detector



RN5VT30A

8. CHIP Diode (BAV70W)